

FIG. 1

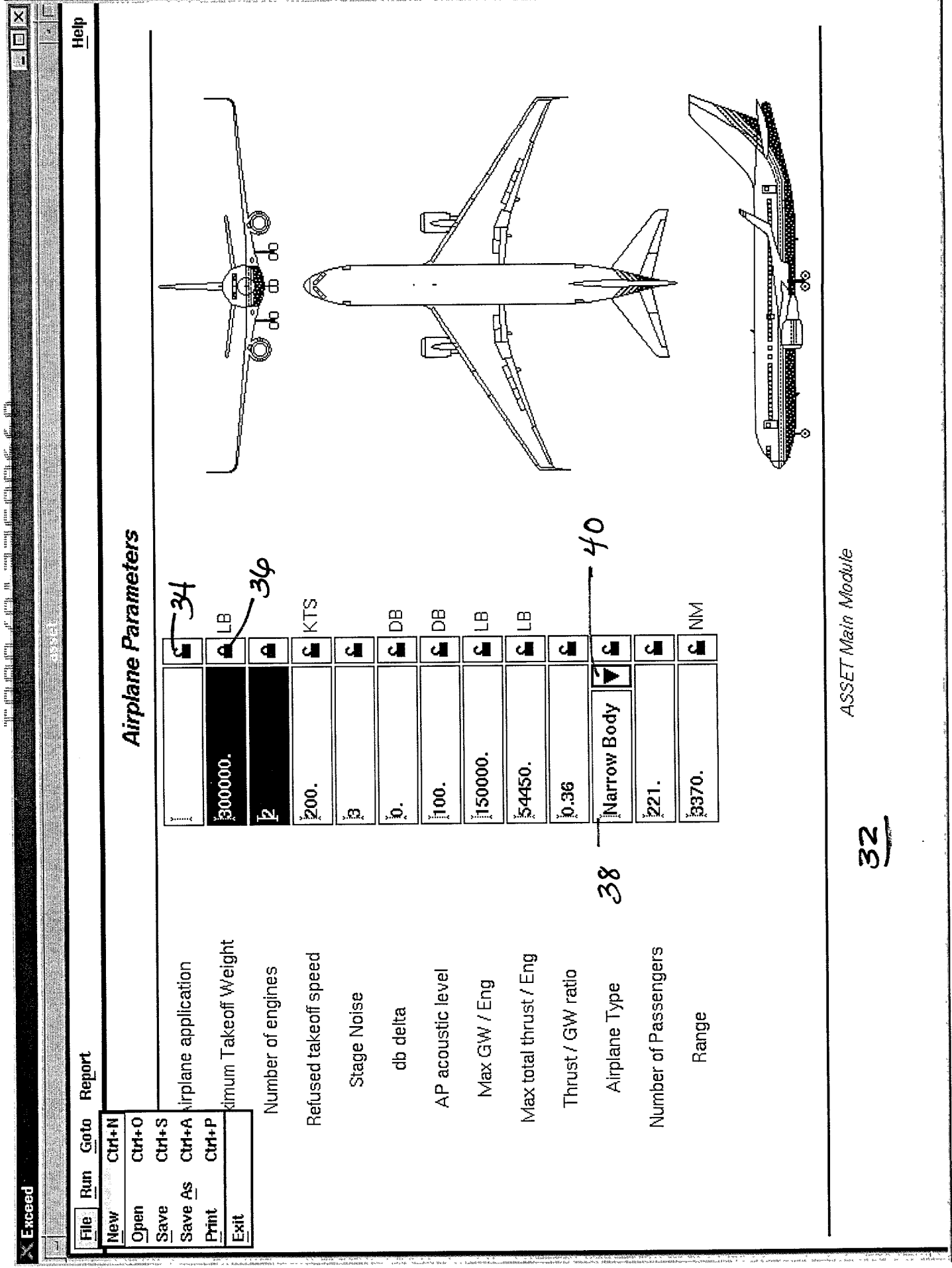
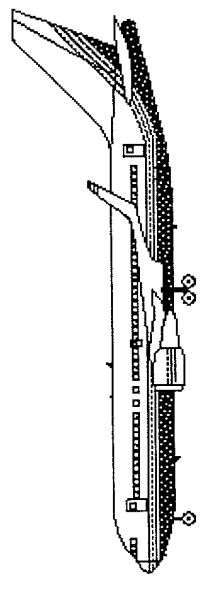
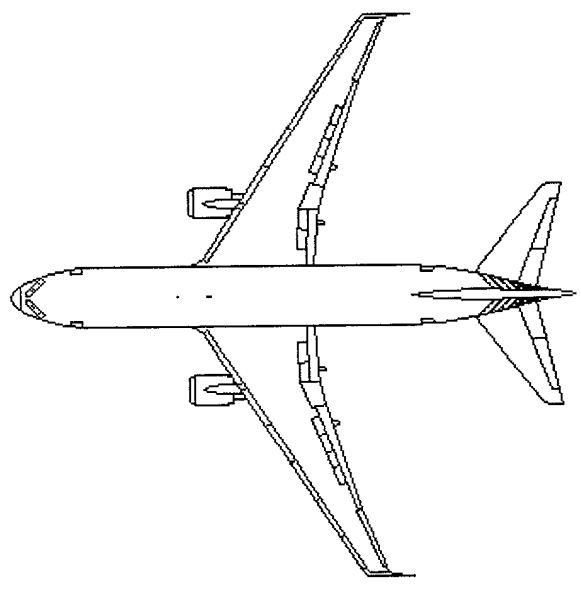
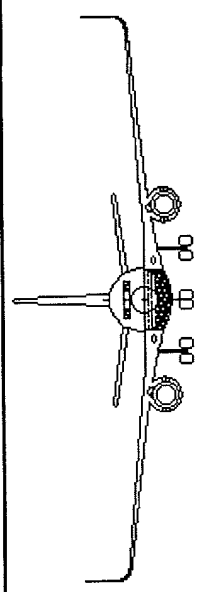


FIGURE 2

Airplane Parameters

Airplane application		
Maximum Takeoff Weight	300000.	LB
Number of engines	2	
Refused takeoff speed	200.	KTS
Stage Noise	3	
db delta	0.	DB
AP acoustic level	100.	DB
Max GW / Eng	150000.	LB
Max total thrust / Eng	54450.	LB
Thrust / GW ratio	0.36	
Airplane Type	Narrow Body	
Number of Passengers	221.	
Range	3370.	NM



ASSET Main Module

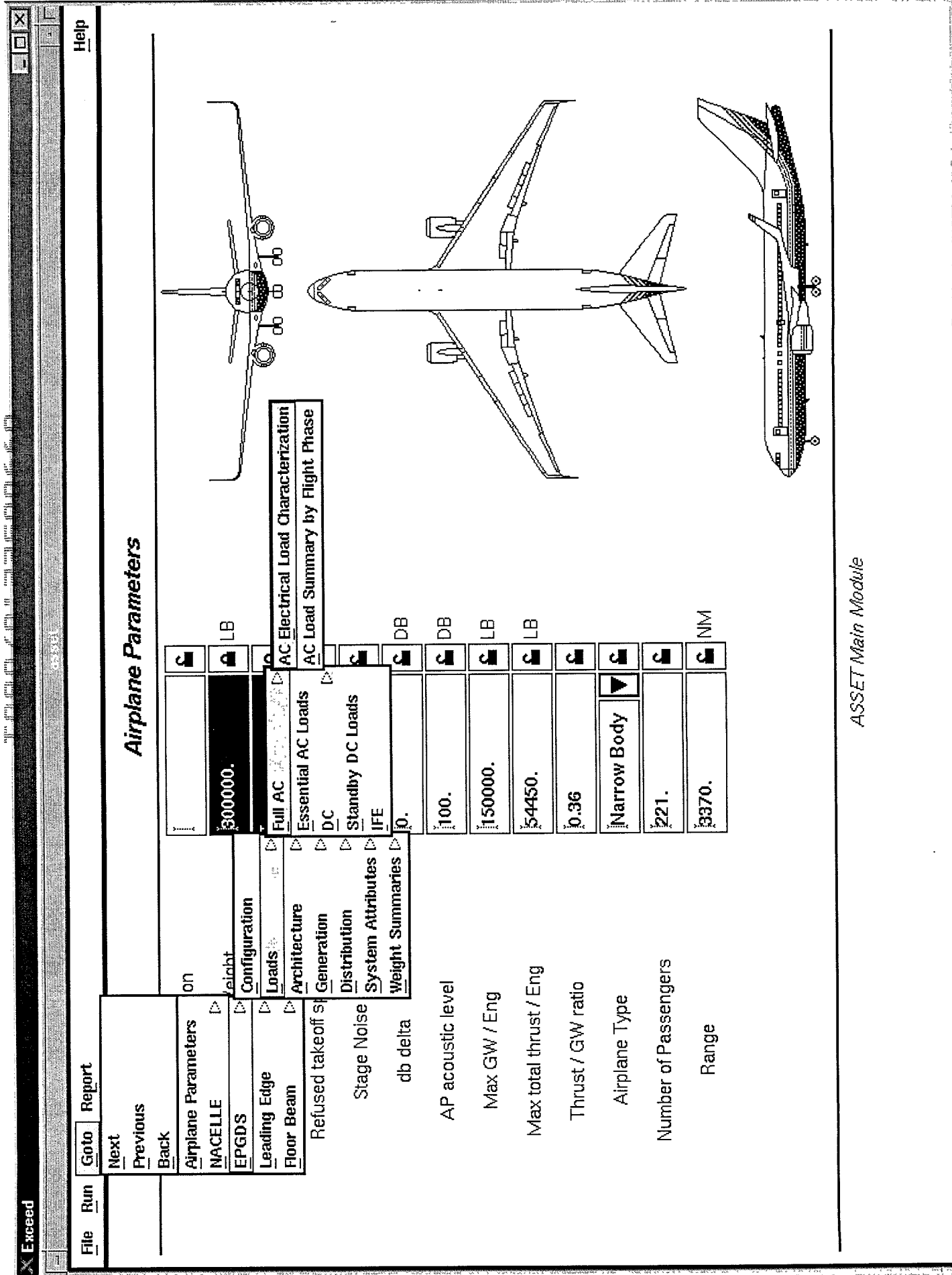


Figure 4

FileRunGotoReport

Help

Configuration

General:

48a

50

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Fly-by-Wire	<input checked="" type="checkbox"/>	TRUE	
Frequency Type		Constant	
Dual EE Bay	<input type="checkbox"/>	FALSE	
Double Voltage	<input type="checkbox"/>	FALSE	
RAT Generator?	<input checked="" type="checkbox"/>	TRUE	
Technology Era		Current	
Fuselage Length		154.17	FT
Fuselage Diameter		17.27	FT
Number of Passenger Entry/Exit Doors		4	
Number of External Power Panels		2	
Fan Diameter		32.96	IN
Sweep Angle		35.00	DEG
Wing Span		1525.58	IN
Horizontal Tail Span		538.95	IN









ASSETEPGDS Method

Figure 5A

Body CL to O/B Engine CL	0.00	IN
Side-of-Body to I/B Engine CL	122.43	IN
Side-of-Body to O/B Engine CL	0.00	IN
Dist. along LE I/B Eng. to Side-of-Body	263.32	IN
Dist. along LE O/B Eng. to Side-of-Body	0.00	IN
Dist. from Fwd. E/E Bay to Front Spar BS	0.00	IN
Dist. from I/B Eng. to EE Bay	647.27	IN
Dist. from O/B Eng. to EE Bay	0.00	IN
Length of Main EE Bay	51.72	IN
H - Lower Lobe Height	56.02	IN
W1 Cabin Width	198.98	IN
W2 Cargo Floor Width	107.78	IN
Main E/E Bay Volume	257.2	FT^3
Strut location	Fan	
Accessory location	Core	

ASSET EPGDS Method

FIGURE 5B

Number of Fans	6.0	
Recirculation Fans	2.0	
Number of E/E Cooling Vent Fans	2.0	
Number of E/E Cooling Supply Fans	2.0	
Number of TRUs	3.0	
Number of ACMPs	2.0	
Number of Window/Windshield Heaters	6.0	
Number of Lavatories	3.0	

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Number of Wide Body Pumps	0.0	0.0
Number of Wide Body Boost Pumps	0.0	0.0
Number of Wide Body Override Pumps	0.0	0.0
Number of Wide Body Jettison Pumps	0.0	0.0
Number of Narrow Body Pumps	0.0	0.0
Number of Narrow Body Boost Pumps	0.0	0.0
Number of Narrow Body Override Pumps	0.0	0.0
Number of Narrow Body Jettison Pumps	0.0	0.0

ASSET EPGDS Method

Figure 6

AC Load Summary by Flight Phase

ATA Subsystems	--- Passenger Loading ---				--- Engine Start ---				--- Taxi Out ---			
	(kVA)	(PF)	(kVA)	(PF)	(kVA)	(PF)	(kVA)	(PF)	(kVA)	(PF)	(kVA)	(PF)
21 Air Conditioning	13.72	0.82	13.72	0.82	13.72	0.82	13.32	0.82	11.32	0.82	11.32	0.82
22 Auto Flight	0.68	0.90	0.68	0.90	0.68	0.90	0.68	0.90	0.68	0.90	0.68	0.90
23 Communications	0.64	1.00	0.64	1.00	0.95	1.00	0.95	1.00	2.42	1.00	2.42	1.00
24 Electrical Power	3.38	0.95	3.38	0.95	3.39	0.95	3.39	0.95	3.57	0.95	3.57	0.95
25 Equipment/Furnishings	25.10	1.00	25.10	1.00	23.24	1.00	23.24	1.00	38.93	1.00	38.93	1.00
26 Fire Protection	0.20	1.00	0.20	1.00	0.20	1.00	0.20	1.00	0.20	1.00	0.20	1.00
27 Flight Control	0.07	1.00	0.07	1.00	0.07	1.00	0.07	1.00	0.07	1.00	0.07	1.00
28 Fuel	0.00	1.00	0.00	1.00	0.08	0.83	0.08	0.83	0.08	0.83	0.08	0.83
29 Hydraulic Power System	19.28	0.75	19.28	0.75	19.28	0.75	19.28	0.75	19.28	0.75	19.28	0.75
30 Ice/Rain Protection	4.43	1.00	4.43	1.00	5.29	1.00	5.29	1.00	5.29	1.00	5.29	1.00
31 Instruments	0.30	1.00	0.30	1.00	0.30	1.00	0.30	1.00	0.30	1.00	0.30	1.00
32 Landing Gear	0.12	1.00	0.12	1.00	0.12	1.00	0.12	1.00	0.12	1.00	0.12	1.00
Maximum Flight Phase Load	116.88	0.96	116.88	0.96	116.88	0.96	116.88	0.96	116.88	0.96	116.88	0.96

ASSET EPGDS Method

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Figure 7A

Exceed

Help

File Run Goto Report

AC Load Summary by Flight Phase

ATA Subsystems	--- Passenger Loading ---						--- Engine Start ---						--- Taxi Out ---					
	(kVA)	(PF)	(kVA)	(PF)	(kVA)	(PF)	(kVA)	(PF)	(kVA)	(PF)	(kVA)	(PF)	(kVA)	(PF)	(kVA)	(PF)	(kVA)	(PF)
32 Landing Gear	0.12	1.00	0.12	1.00	0.12	1.00	0.12	1.00	0.12	1.00	0.12	1.00	0.12	1.00	0.12	1.00	0.12	1.00
33 Lights	10.68	1.00	9.71	1.00	9.71	1.00	9.71	1.00	9.32	1.00	9.32	1.00	9.32	1.00	9.32	1.00	9.32	1.00
34 Navigation	0.89	0.85	0.89	0.85	0.89	0.85	0.89	0.85	0.89	0.85	0.89	0.85	0.89	0.85	0.89	0.85	0.89	0.85
35 Oxygen	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
36 Pneumatics	0.00	1.00	0.23	1.00	0.23	1.00	0.23	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
38 Water/Waste	6.36	0.77	1.40	0.83	1.40	0.83	1.40	0.83	1.40	0.83	1.40	0.83	1.40	0.83	1.40	0.83	1.40	0.83
46 Electronic Library	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
48 Airplane Auxiliary Power	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
52 Doors	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
57 Folding Wing	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
73 Engine Fuel Control	0.00	1.00	0.70	0.74	0.70	0.74	0.70	0.74	0.70	0.74	0.70	0.74	0.70	0.74	0.70	0.74	0.70	0.74
74 Ignition	0.00	1.00	0.30	0.33	0.30	0.33	0.30	0.33	0.30	0.33	0.30	0.33	0.30	0.33	0.30	0.33	0.30	0.33

Maximum Flight Phase Load <> 116.88 KVA <> 0.96 PF

ASSET EPGDS Method

Figure 7B

AC Load Summary by Flight Phase

ATA Subsystems	--- Take-off & Climb ---			--- Cruise ---			--- Descent & Land ---		
	(kVA)	(PF)	(kVA)	(kVA)	(PF)	(kVA)	(PF)	(PF)	
32 Landing Gear	0.12	1.00	0.12	0.12	1.00	0.23	1.00	1.00	
33 Lights	0.97	1.00	7.73	7.73	1.00	11.51	1.00	1.00	
34 Navigation	1.17	0.88	1.17	1.17	0.88	1.17	0.88	0.88	
35 Oxygen	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	
36 Pneumatics	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	
38 Water/Waste	0.94	0.98	1.14	1.14	0.89	1.12	0.94	0.94	
46 Electronic Library	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
48 Airplane Auxiliary Power	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	
52 Doors	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	
57 Folding Wing	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	
73 Engine Fuel Control	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	
74 Landing	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	
Maximum Flight Phase Load	116.88	KVA <>	0.96	PF					

ASSET EPGDS Method

Figure 7c

AC Load Summary by Flight Phase

ATA Subsystems	--- Take-off & Climb ---			--- Cruise ---			--- Descent & Land ---		
	(kVA)	(PF)	(kVA)	(kVA)	(PF)	(PF)	(kVA)	(PF)	(PF)
57 Fueling wing	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00
73 Engine Fuel Control	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00
74 Ignition	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00
75 Air	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00
76 Engine Controls	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00
77 Engine Indicating	0.02	1.00	0.02	0.02	1.00	1.00	0.02	1.00	1.00
78 Exhaust	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00
79 Oil	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00
80 Starting	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00
Flight Phase Subtotals	101.63	0.96	100.16	100.16	0.96	0.96	65.71	0.93	0.93
Error/Growth Factor (15%)	15.24	0.96	15.02	15.02	0.96	0.96	9.86	0.93	0.93
Flight Phase Totals	116.88	0.96	115.19	115.19	0.96	0.96	75.57	0.93	0.93

Maximum Flight Phase Load <> 116.88 KVA <> 0.96 PF

ASSET EPGDS Method

FIGURE 7D

	Quantity	Load per Unit	Totals
Number of Upper Recirculating Fans	2.0	1.28 KVA	Total Fan Load 15.38 KVA
Number of Lower Recirculating Fans	0.0	1.98 KVA	
Number of E/E Cooling Supply Fans	2.0	3.20 KVA	
Number of E/E Cooling Vent Fans	2.0	3.20 KVA	
Number of Hydraulic ACMP Pumps	2.0	6.41 KVA	Total Pump Load 23.30 KVA
Number of Fuel Boost Pumps	6.0	1.75 KVA	
Number of Fuel Override Pumps	0.0	4.66 KVA	
Baseline Flight & Electronics, Ice & Rain		6.75 KVA	Passenger Load Baseline Flight & Electronics Total Load 13.10 KVA
Baseline Flight & Electronics, Electronics		6.35 KVA	
Subtotal of Essential Loads			58.86 KVA
General Feeder Loss			4.12 KVA
Total of Essential Loads			62.98 KVA

FIGURE 8

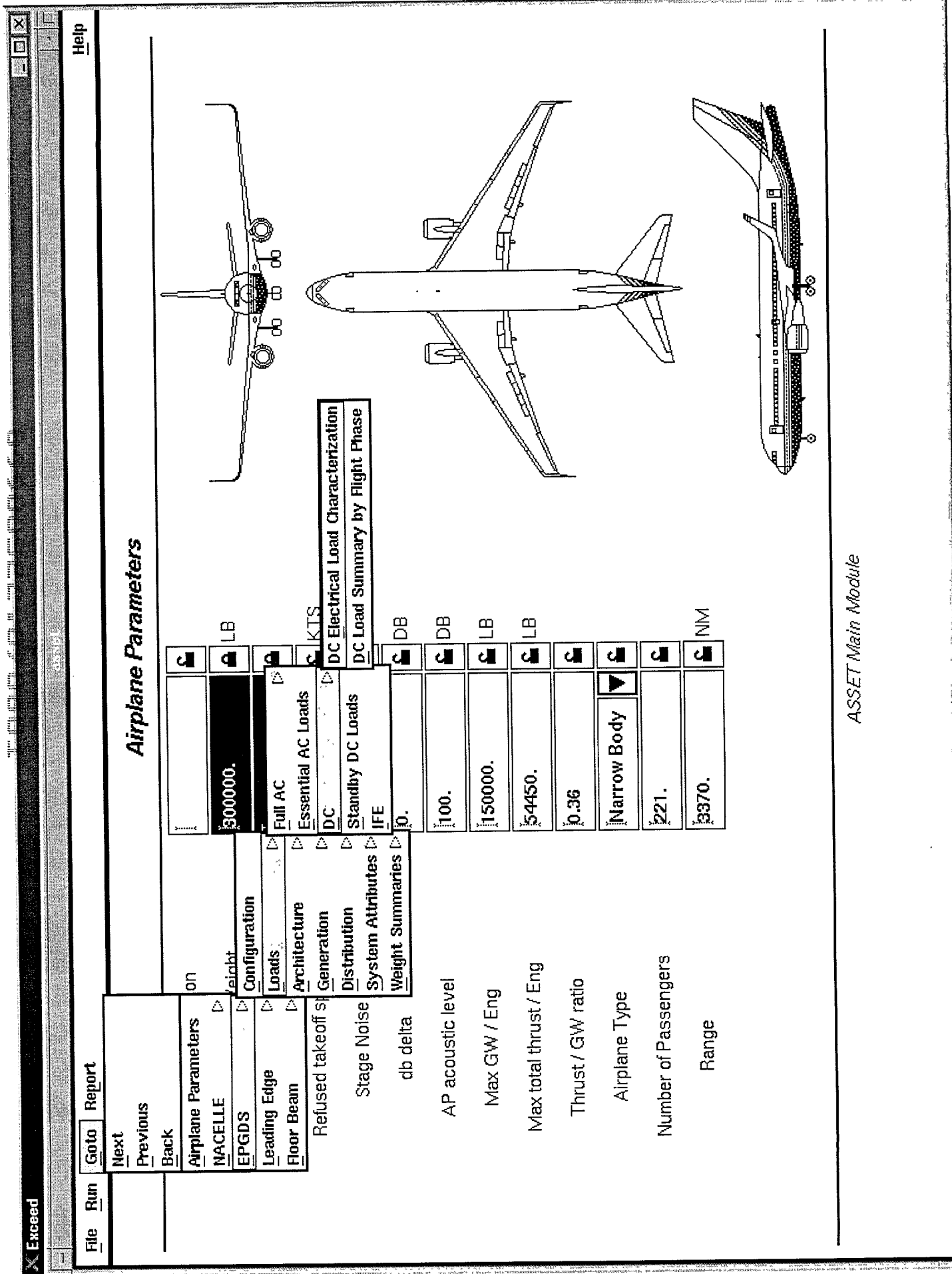


FIGURE 9

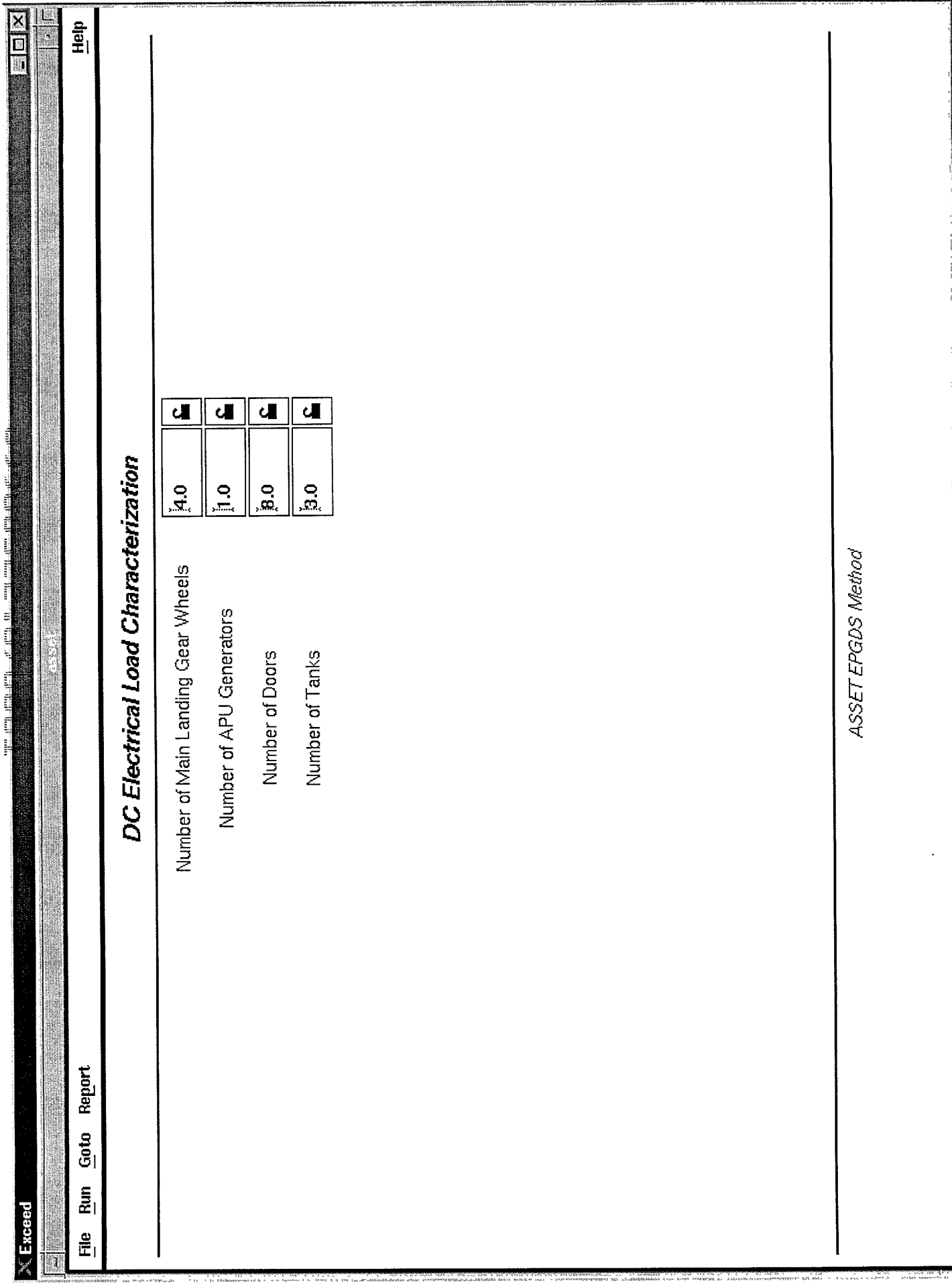


Figure 10

DC Load Summary by Flight Phase

ATA Subsystems	Pass		Engine		Take-Off		Descent	
	Loading	Start	Taxi-Out	& Climb	Cruise	& Land		
	(Amps)	(Amps)	(Amps)	(Amps)	(Amps)	(Amps)	(Amps)	
21 Air Conditioning	13.40	14.60	15.01	15.14	15.14	15.14	15.14	
22 Auto Flight	9.83	9.83	9.83	10.42	10.75	10.75	13.60	
23 Communications (IFE, AVOD)	6.74	6.56	7.69	6.90	7.13	6.90	6.90	
24 Electrical Power	3.36	2.27	2.27	2.27	2.27	2.27	2.27	
25 Equipment/Furnishings	18.22	18.04	18.04	18.04	18.04	18.04	18.04	
26 Fire Protection	0.54	0.54	0.54	0.54	0.54	0.54	0.54	
27 Flight Control	0.07	0.07	0.07	0.07	0.07	0.07	0.07	
28 Fuel	6.51	1.21	1.21	1.21	1.21	1.21	1.21	
29 Hydraulic Power System	0.80	0.80	0.80	0.80	0.80	0.80	0.80	
30 Ice/Rain Protection	3.20	5.30	12.42	12.42	5.40	12.42	12.42	
31 Instruments	36.81	36.70	36.70	36.70	36.70	36.70	36.70	
Maximum Flight Phase Direct Current Load		139.90	AMPS					

ASSET EPGDS Method

FIGURE 11A

DC Load Summary by Flight Phase

ATA Subsystems	Pass		Engine		Taxi-Out		Take-Off		Cruise		Descent	
	Loading	(Amps)	Start	(Amps)	(Amps)	(Amps)	& Climb	(Amps)	(Amps)	(Amps)	& Land	(Amps)
31 Instruments	36.81		36.70		36.70		36.70		36.70		36.70	
32 Landing Gear	3.69		3.69		3.67		3.59		3.59		4.07	
33 Lights	15.84		15.77		16.38		19.47		17.07		16.05	
34 Navigation	1.99		1.95		2.45		2.45		2.45		2.45	
35 Oxygen	0.00		0.00		0.00		0.00		0.00		0.00	
36 Pneumatics	4.07		4.07		4.07		4.07		4.07		4.07	
38 Water/Waste	2.07		1.53		1.53		2.07		1.65		2.07	
46 Electronic Library	0.00		0.00		0.00		0.00		0.00		0.00	
49 Airplane Auxiliary Power	1.20		1.20		1.20		1.20		0.00		0.00	
52 Doors	1.00		1.50		1.50		1.50		1.50		1.50	
57 Folding Wing	0.00		0.00		0.00		0.00		0.00		0.00	
Maximum Flight Phase Direct Current Load	139.90		139.90		139.90		139.90		139.90		139.90	

ASSET EPGDS Method

Figure 11B

DC Load Summary by Flight Phase

<i>ATA Subsystems</i>	Pass Loading (Amps)	Engine Start (Amps)	Taxi-Out (Amps)	Take-Off & Climb (Amps)	Cruise (Amps)	Descent & Land (Amps)
52 Doors	↕ 1.00	↕ 1.50	↕ 1.50	↕ 1.50	↕ 1.50	↕ 1.50
57 Folding Wing	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.00
73 Engine Fuel Control	↕ 0.00	↕ 0.07	↕ 0.37	↕ 0.37	↕ 0.37	↕ 0.37
74 Ignition	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.00
75 Air	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.00
76 Engine Controls	↕ 1.12	↕ 1.12	↕ 0.65	↕ 0.65	↕ 0.65	↕ 0.65
77 Engine Indicating	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.00
78 Exhaust	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.60
79 Oil	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.00
80 Starting	↕ 0.00	↕ 3.20	↕ 0.00	↕ 0.00	↕ 0.00	↕ 0.00
Flight Phase Totals	↕ 130.46	↕ 130.02	↕ 136.40	↕ 139.90	↕ 129.41	↕ 139.53
Maximum Flight Phase Direct Current Load	139.90	AMPS				

ASSET EPGDS Method

FIGURE 11C

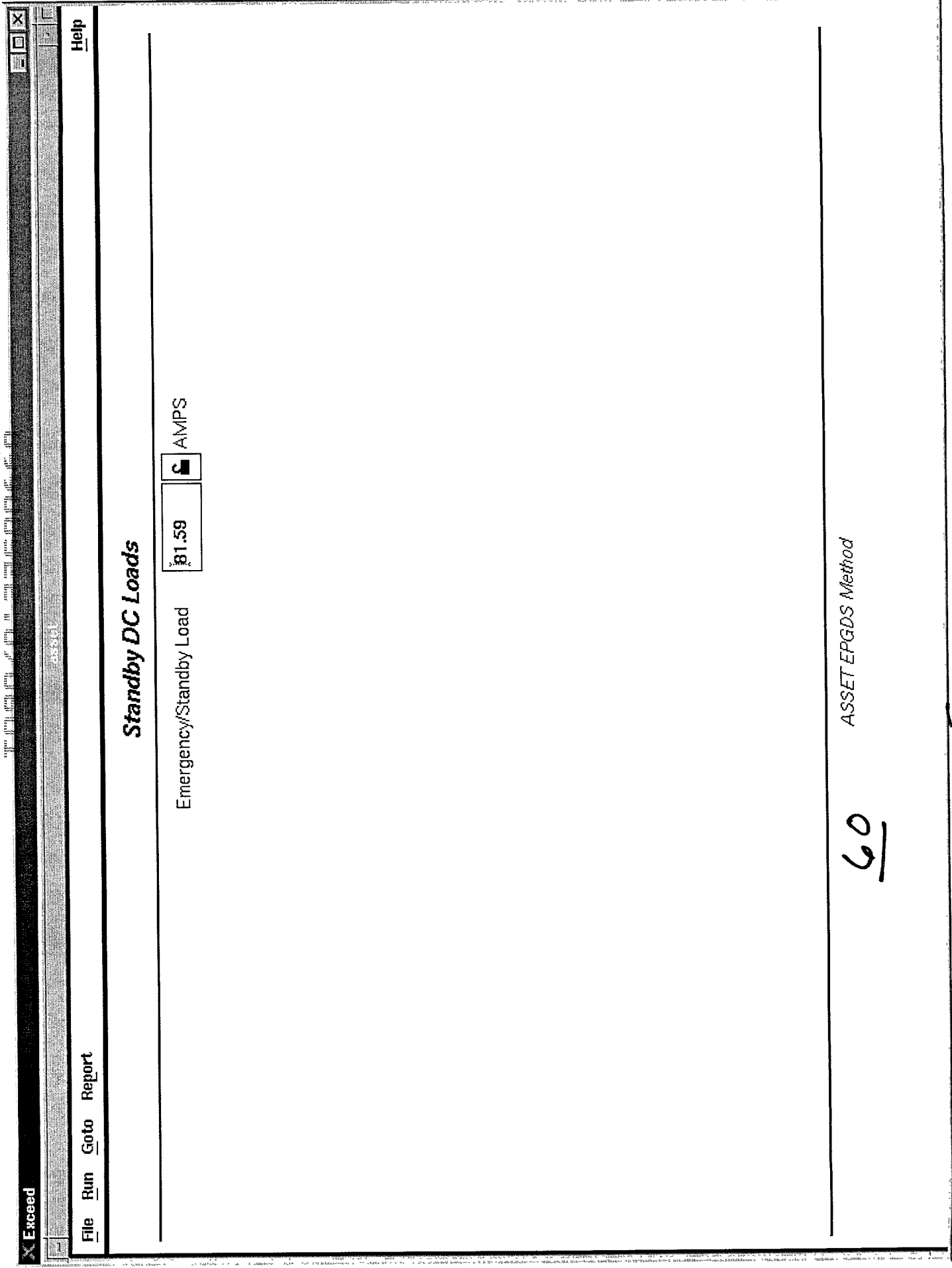


FIGURE 12

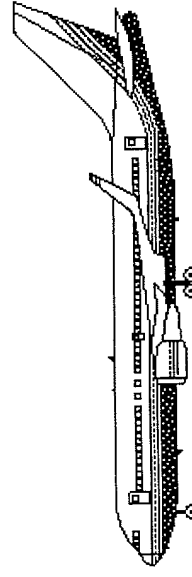
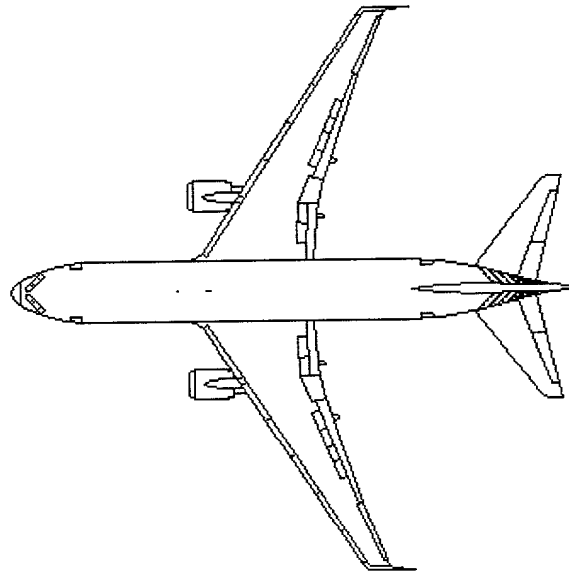
Technology Era Constant	1.000	Icon
System Factor	0.700	Icon
Airflow Constant	156.0	Icon
Fan performance coefficient	0.00196522	Icon
IFE Power Factor	0.98	Icon
IFE Utilization Factor	100.0	Icon
IFE Load	0.0	Icon
		CFM/KVA
		KVA/CFM

ASSET EPGDS Method

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Figure 13

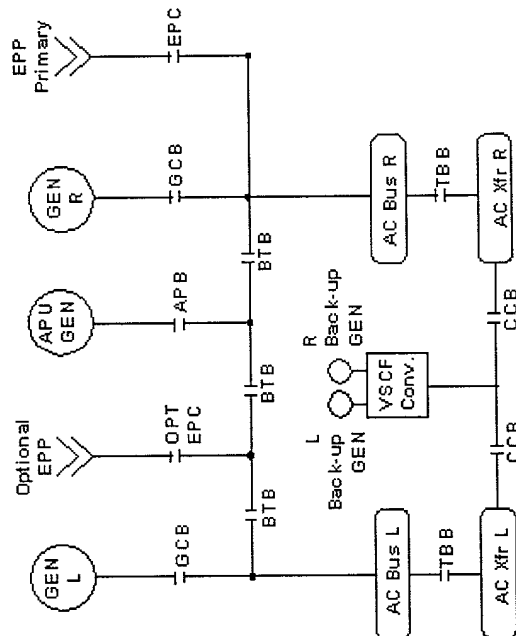
Back	ON		
Airplane Parameters			
NACELE			
EPGDS			
Leading Edge			
Floor Beam			
Refused takeoff speed			
Stage Noise			
db delta			
AP acoustic level			
Max GW / Eng			
Max total thrust / Eng			
Thrust / GW ratio			
Airplane Type			
Number of Passengers			
Range			



ASSET Main Module

FIGURE 14

Twin, Fly-by-Wire, Isolated Architecture

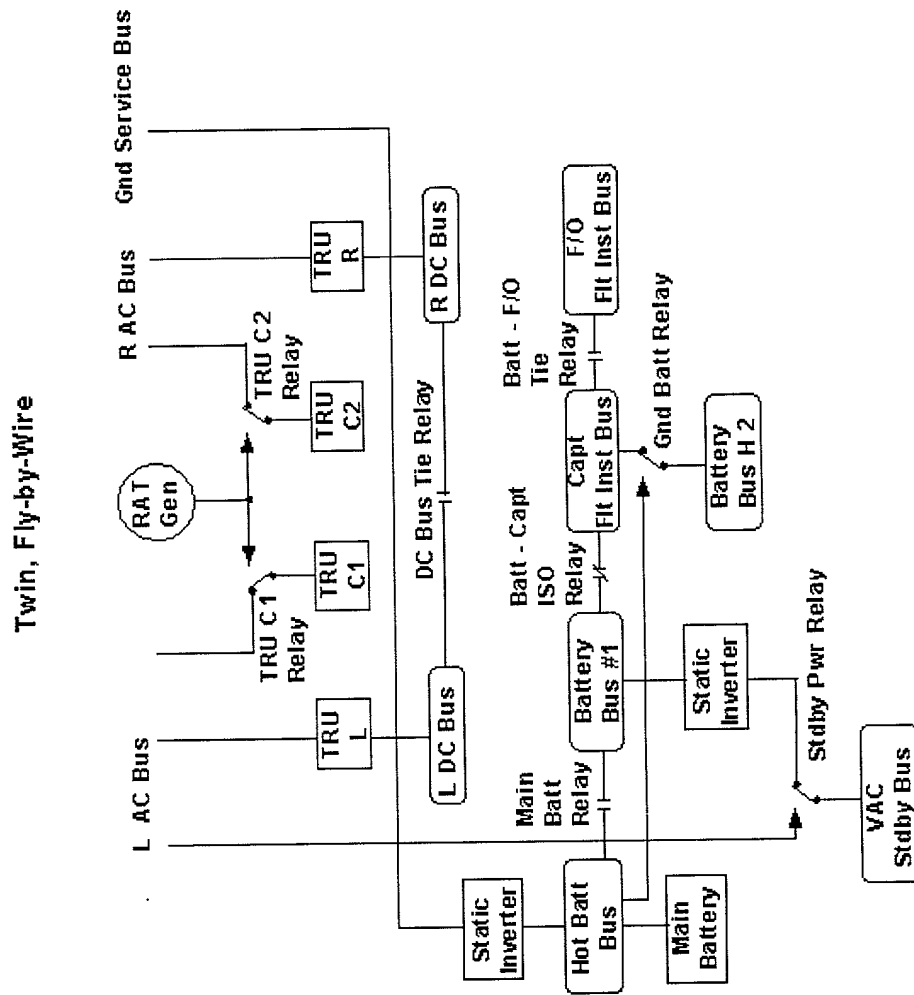


If selected, HMG Backup System not reflected in graphics.

Main Generator Type	IDG	▼	☒	In-flight operable	▼	☒
Optional External Power Panel	<input checked="" type="checkbox"/>	TRUE	☒	VSCF : Stand-Alone Converter	▼	☒
Number of Generators per Engine	1		☒	HIMG Option?	<input type="checkbox"/>	FALSE ☒

ASSET EPGDS Method

FIGURE 15

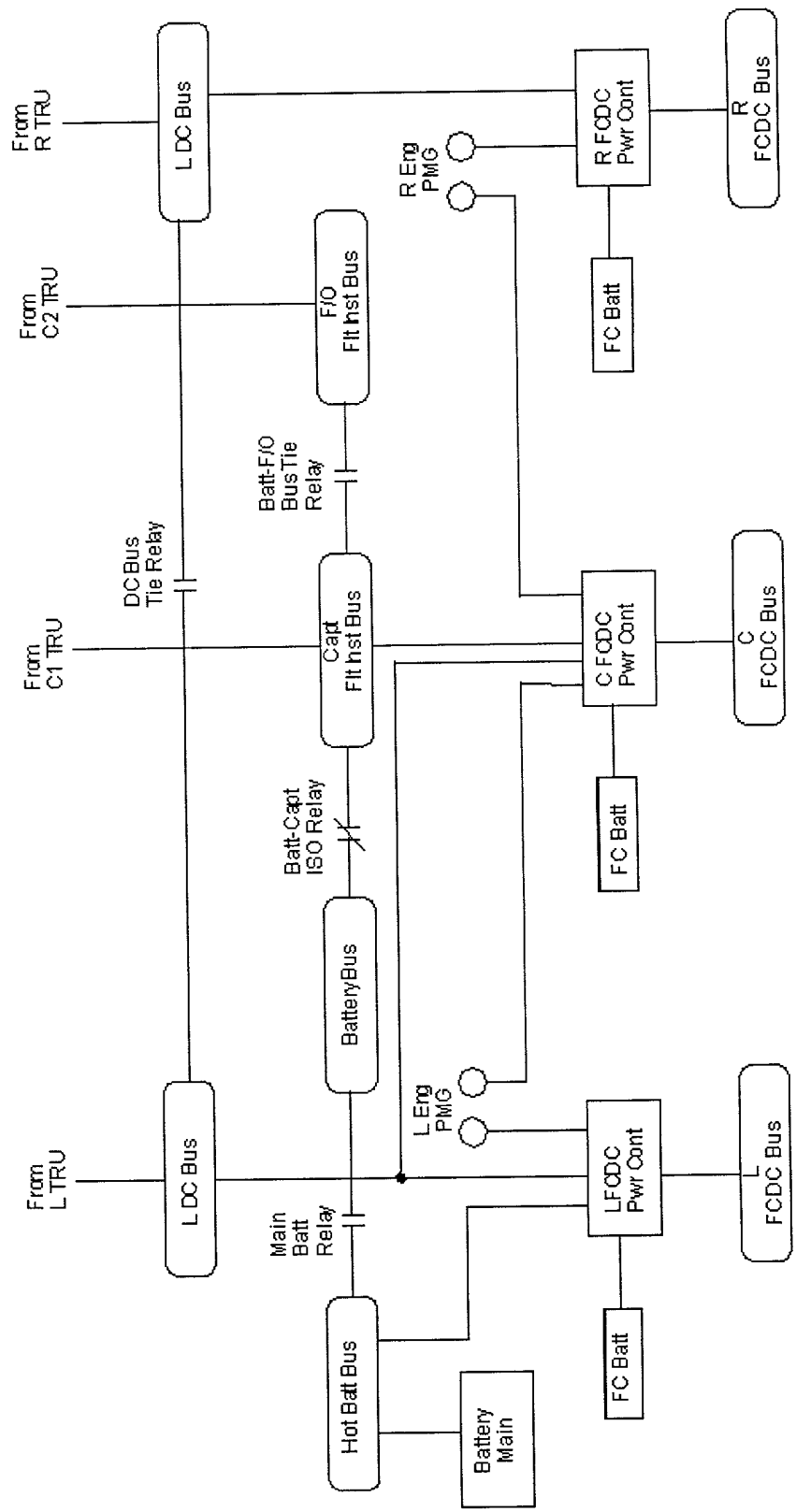


ASSET EPGDS Method

Figure 16

Flight Control DC

Twin, Fly-by-Wire



PMGs for FCDC? ☒ TRUE

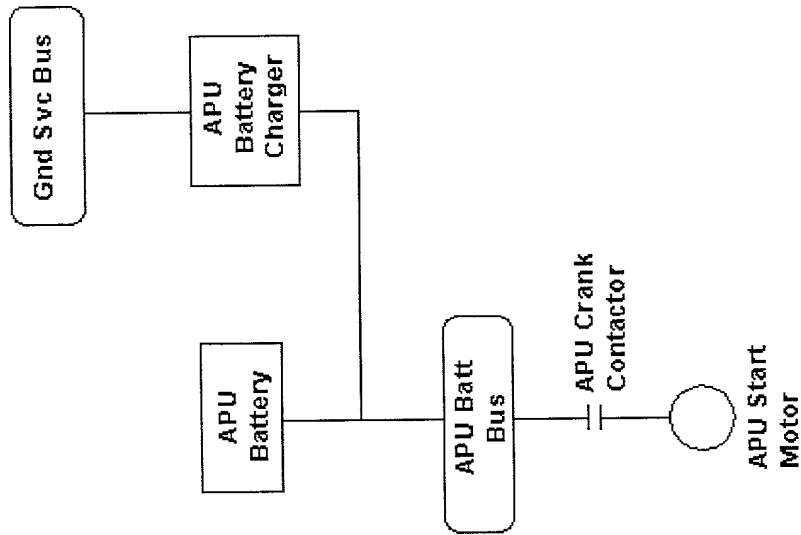
ASSET EPGDS Method

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FIGURE 17

APU Starting System

Dedicated APU Battery/Charger



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APU Starting System

Dedicated APU Battery/Charger

ASSET EPGDS Method

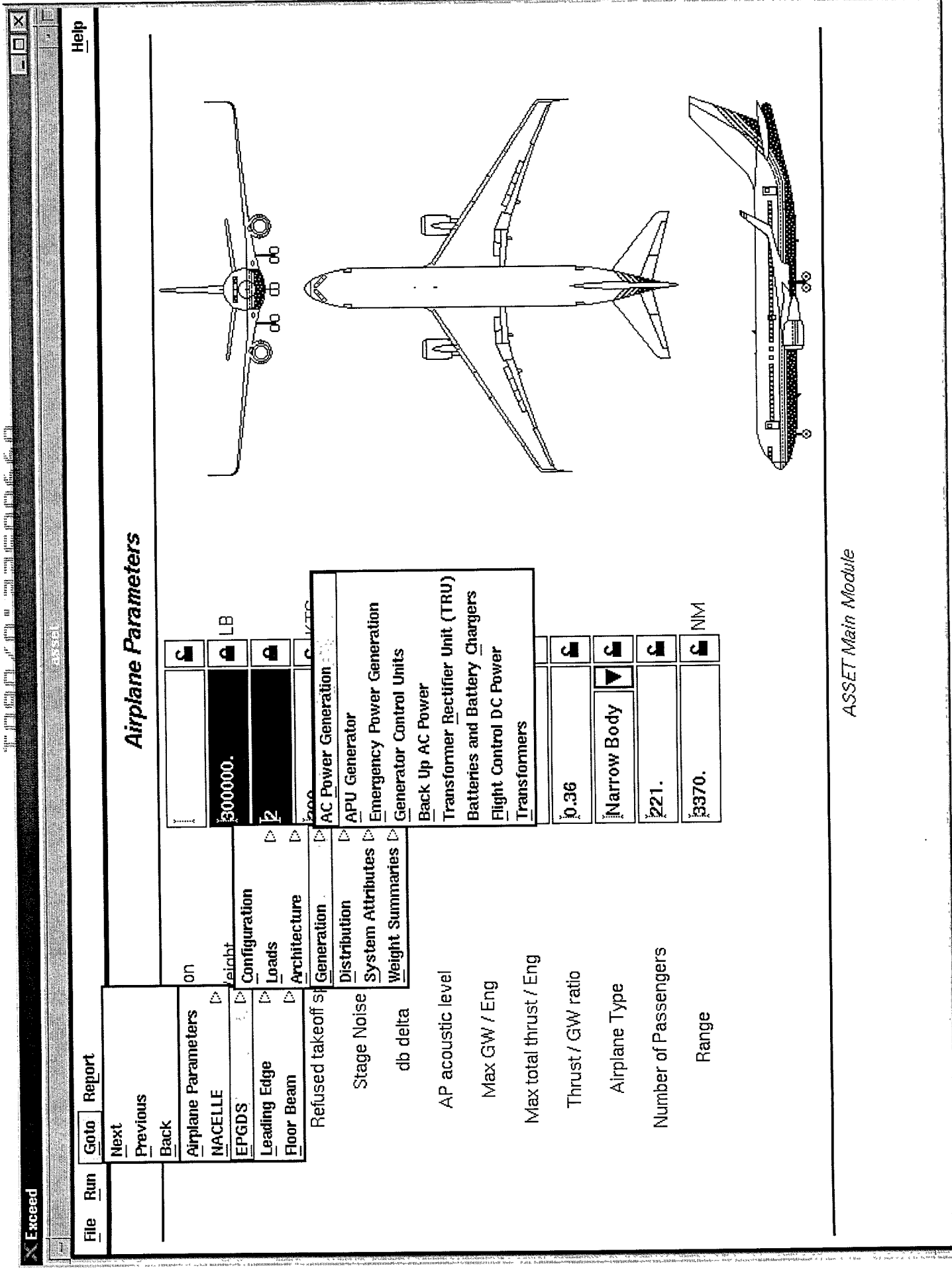
FIGURE 18

Twin, Fly-by-Wire and Non-Fly-by-Wire



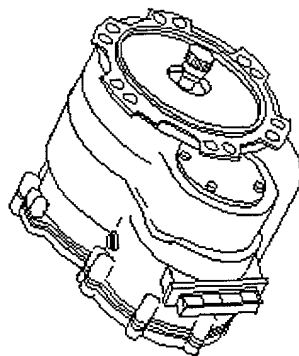
ASSET EPGDS Method

FIGURE 19



ASSET Main Module

Figure 20



GD

Generator Input Speed	24000.	RPM
Method of Cooling	Oil	
Generator Capacity	90.0	KVA
Main AC Power Generator Weight	110.5	LB
VSCF Converter Config.	None	
Maximum Converter Load	0.0	KVA
Main Converter Unit Weight	0.0	LB

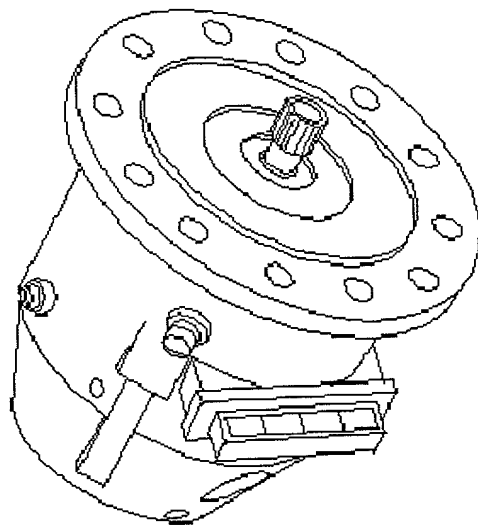
[illegible]

ASSET EPGDS Method

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Figure 21

APU Generator



In-Flight Operable APU

APU Generator Capacity

APU Generator Weight

Number of APU Generators

TRUE

0.06

64.2

1.0

KVA

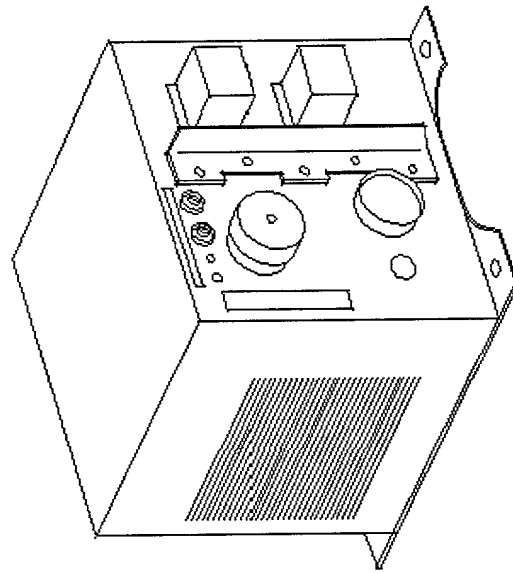
87

76

ASSET EPGDS Method

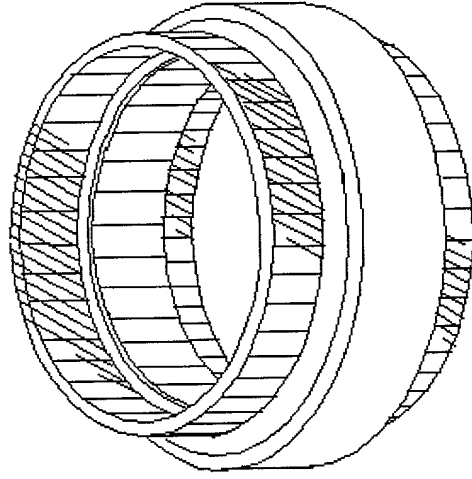
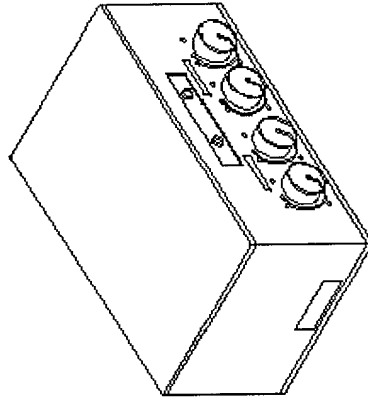
FIGURE 22

Generator Control Units



	Main AC		APU		RAT	
Unit Size	3.0	3.0	3.0	3.0	3.0	MCU
Unit Weight	5.0	5.0	5.0	5.0	5.0	LB

PMGS



VSCF System

18.8

Air

12000.0

38.1

Integrated with Back Up Generator

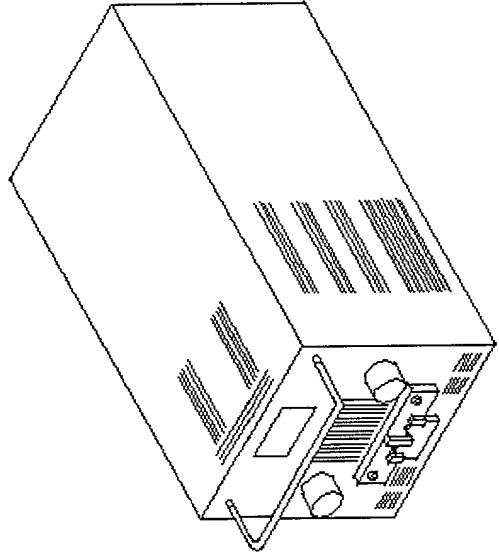
52

Stand Alone Converter

43.1

80

Transformer Rectifier Unit (TRU)

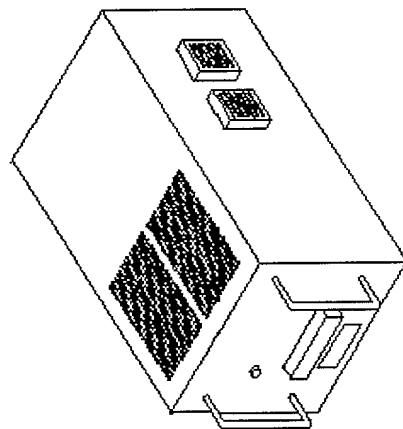
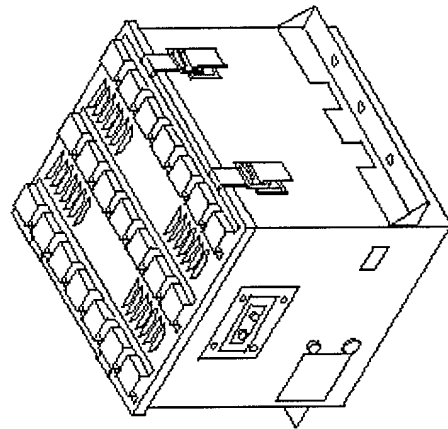


Number of TRUs	3.0	
DC Output	150.0	AMPS
Efficiency	82.0	%
TRU Weight	10.7	LB



ASSET EPGDS Method

FIGURE 2.5



Batteries and Battery Chargers



Batteries



Nominal Capacity	47.0	
Battery Weight	106.0	

MAIN Battery

Output Capacity	60.0	
Battery Charger Weight	13.0	

Battery Chargers

Nominal Capacity	47.0	Ⓒ
Battery Weight	106.0	Ⓒ

Output Capacity	50.0	
Battery Charger Weight	13.0	

ASSET EPGDS Method

FIGURE 26

FileRunGotoReport

Help

Flight Control DC Power

Power Supply Assemblies (PSAs)

300.0

WATTS

Number of Dedicated Batteries

3

LB

Dual Converter

PSA Battery Unit Weight

14.3

LB

35.0

LB

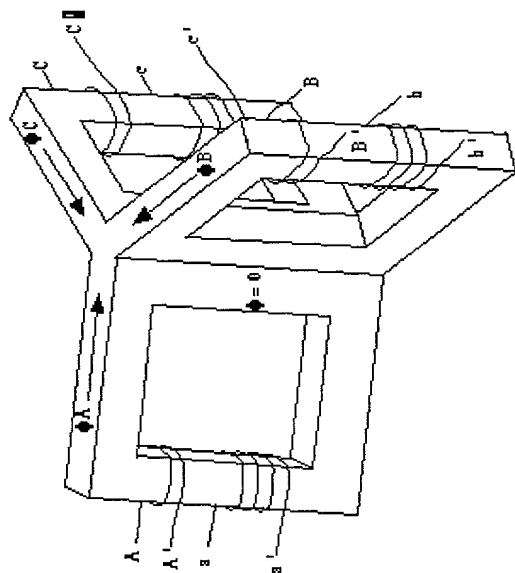
Output Power




Converter Architecture

PSA Cabinet Weight

ASSET EPGDS Method

FIGURE 27



Step-Up Transformer Capacity	0.0		KVA
Step-Up Transformer	0.0		LB
Step-Down Transformer Capacity	0.0		KVA
Step Down Transformer Weight	0.0		LB

ASSET EPGDS Method

FIGURE 28

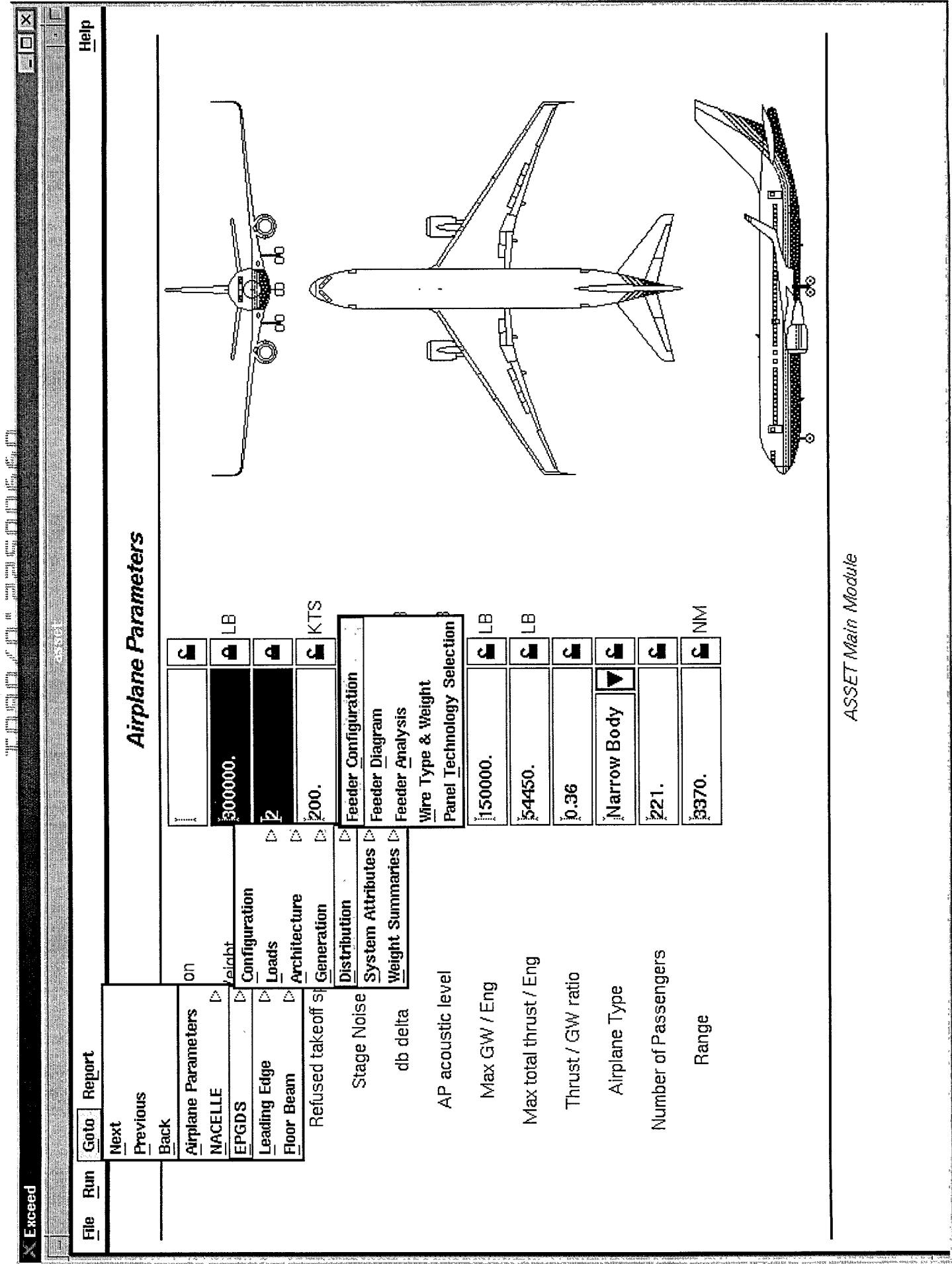







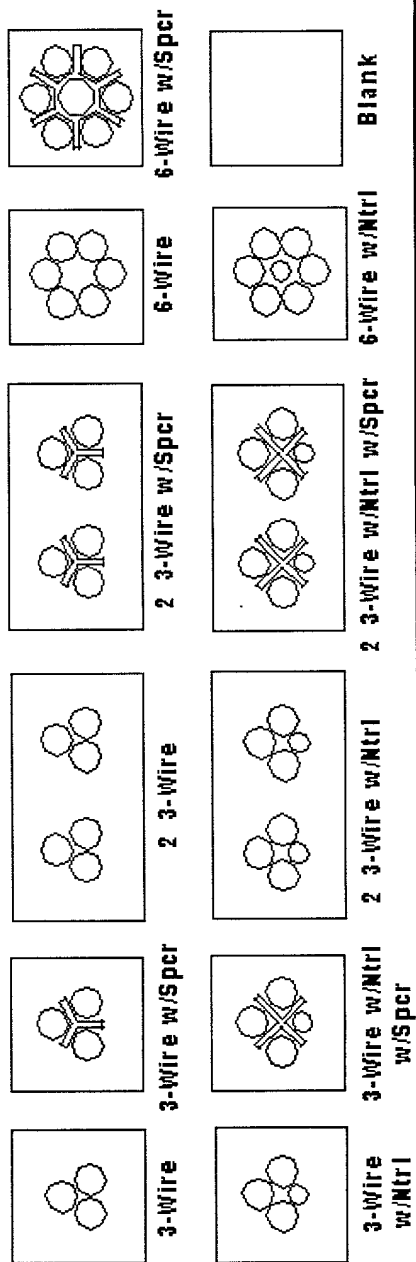
FIGURE 29

Show Data for:

MAIN

<i>Feeder 1:</i>	<>	3-Wire w/Ntrl	▶	
<i>Feeder 2:</i>	<>	2 3-Wire w/Ntrl	▶	
<i>Feeder 3:</i>	<>	2 3-Wire w/Ntrl	▶	
<i>Feeder 4:</i>	<>	2 3-Wire w/Ntrl	▶	
<i>Feeder 5:</i>	<>	None	▶	

Bundle Cross-Sections



ASSET EPGDS Method

Figure 30

Feeder Diagram

Show Data for:

MAIN

Feeder 1

Feeder 2

Feeder 3

Feeder 4

Feeder 5

Material

Gage

CU

0/3

CU

4

AL




AL



None

None

Neutral 1

Neutral 2

Neutral 3

Neutral 4

Neutral 5

Material

Gage

CU

011

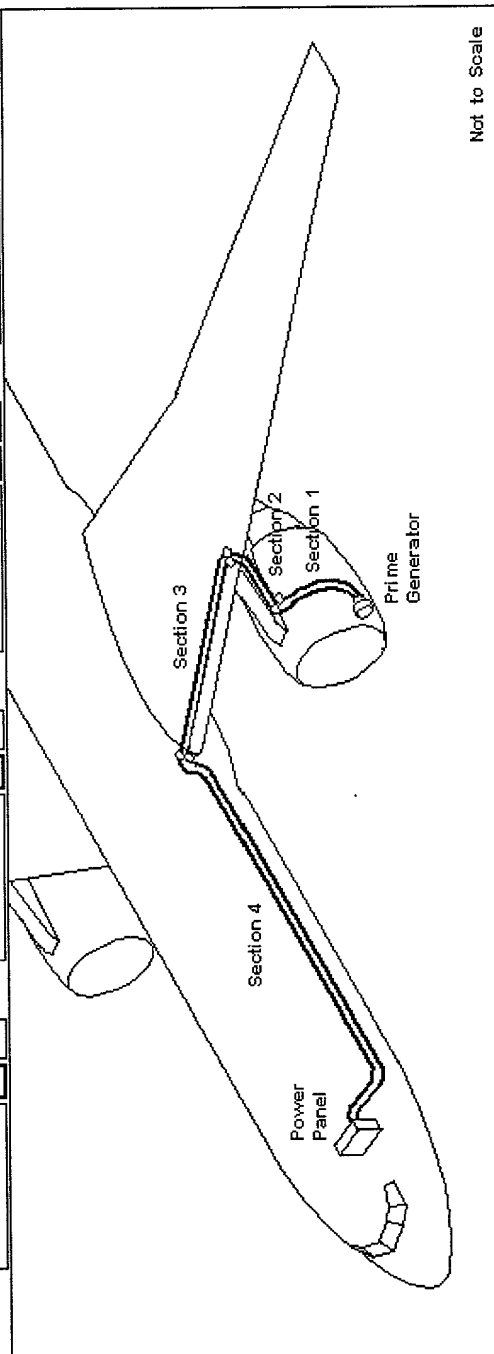
CU

AL

AL

None

None



ASSET EPGDS Method

FIGURE 31

Show Data for:

MAIN



Feeder 1

Feeder 2

Feeder 3

Feeder 4

Feeder 5

	260.9	<>	130.4	☑	<>	130.4	☑	<>	130.4	☑	<>	0.0	☑	AMPS
Phase Current	260.9	<>	130.4	☑	<>	130.4	☑	<>	130.4	☑	<>	0.0	☑	AMPS
Feeder Temperature Rise	49.7	<>	59.2	☑	<>	61.6	☑	<>	64.6	☑	<>	0.0	☑	DEG-C
Bundle Derating	1.000	<>	1.000	☑	<>	1.000	☑	<>	1.000	☑	<>	1.000	☑	
Sizing Altitude	41000	<>	8000	☑	<>	8000	☑	<>	8000	☑	<>	8000	☑	FT
Altitude Derating	1.757	<>	1.112	☑	<>	1.112	☑	<>	1.112	☑	<>	1.112	☑	
Ambient Temperature	149.0	<>	93.0	☑	<>	93.0	☑	<>	57.0	☑	<>	57.0	☑	DEG-C
Feeder Temperature	236.4	<>	158.8	☑	<>	161.5	☑	<>	151.1	☑	<>	57.0	☑	DEG-C
Max Wire Temperature	260.0	<>	260.0	☑	<>	175.0	☑	<>	175.0	☑	<>	260.0	☑	DEG-C
Temperature Margin	23.6	<>	101.2	☑	<>	13.5	☑	<>	23.9	☑	<>	203.0	☑	DEG-C
Feeder Length	6.84	<>	14.38	☑	<>	26.33	☑	<>	38.40	☑	<>	0.00	☑	FT
Maximum Voltage Drop										☑	VOLTS			
Total Voltage Drop										☑	VOLTS			
Voltage Drop Margin										☑	VOLTS			

ASSET EPGDS Method

Figure 32

Wire Type & Weight

Show Data for:

MAIN

Wire Type, Feeder 1:	<>	BMS 13-60 Type 7	▼	11.2	LB
Wire Type, Neutral 1:	<>	BMS 13-60 Type 7	▼	2.4	LB
Wire Type, Feeder 2:	<>	BMS 13-60 Type 7	▼	12.5	LB
Wire Type, Neutral 2:	<>	BMS 13-60 Type 7	▼	1.7	LB
Wire Type, Feeder 3:	<>	BMS 13-35 Type 1	▼	15.2	LB
Wire Type, Neutral 3:	<>	BMS 13-35 Type 1	▼	2.3	LB
Wire Type, Feeder 4:	<>	BMS 13-35 Type 1	▼	14.7	LB
Wire Type, Neutral 4:	<>	BMS 13-35 Type 1	▼	2.3	LB
Wire Type, Feeder 5:	<>	BMS 13-60 Type 22	▼	0.0	LB
Wire Type, Neutral 5:	<>	BMS 13-60 Type 22	▼	0.0	LB
TRU Feeder Weight					6.4 LB
Total Wire Weight					68.8 LB

ASSET EPGDS Method

Figure 33

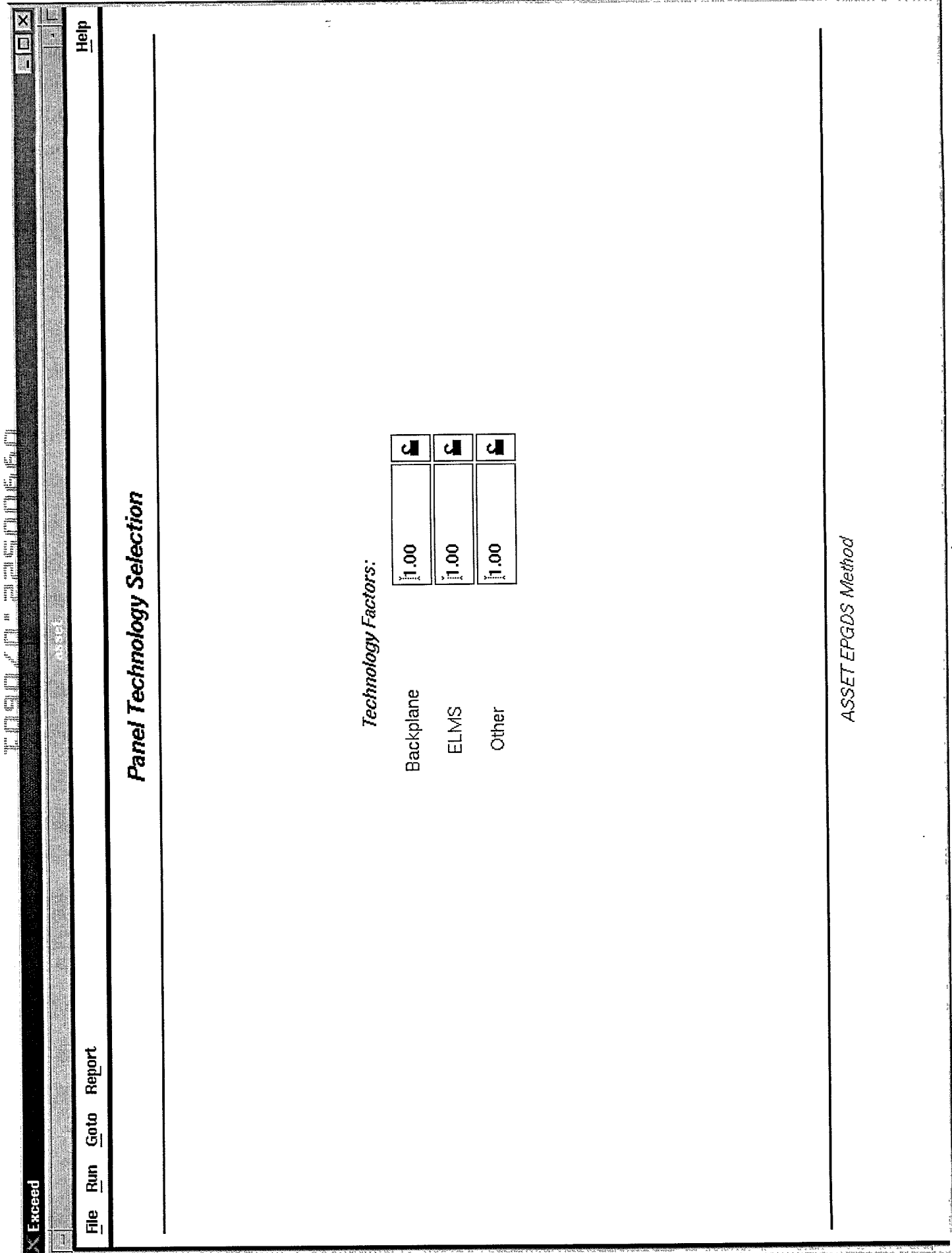
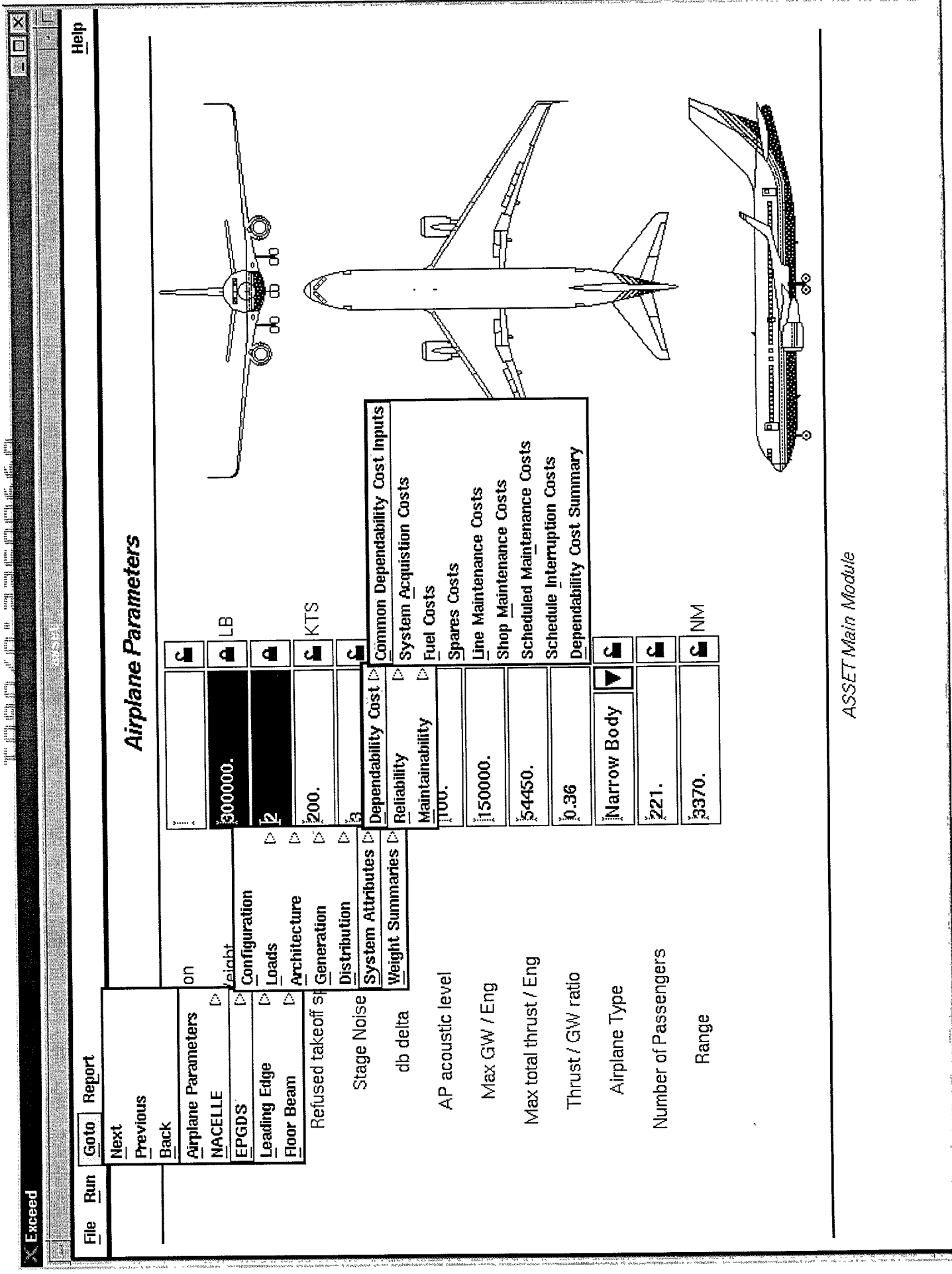
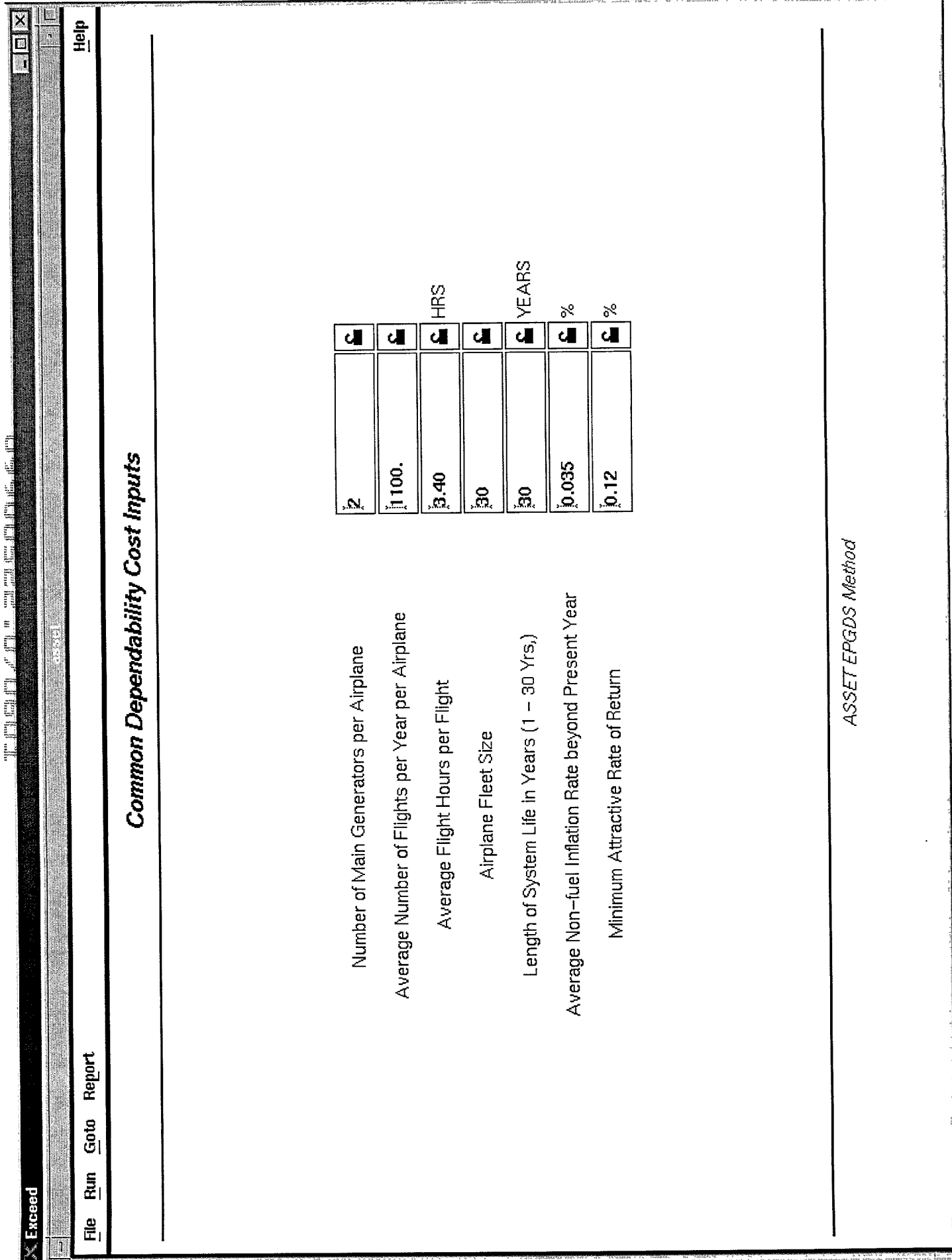


FIGURE 34



ASSET Main Module

FIGURE 35



ASSET EPGDS Method

FIGURE 36

X Exceed		File Run Goto Report Help	
System Acquisition Costs			
System Acquisition Cost, Base Year (per fleet)	0.		DOLLARS
System Support Equipment Cost, Base Year (per fleet)	0.		DOLLARS
System Initial Training Cost, Base Year (per fleet)	0.		DOLLARS
System Acquisition Cost per Airplane per Year	4078.		DOLLARS
ASSET EPGDS Method			

FIGURE 37

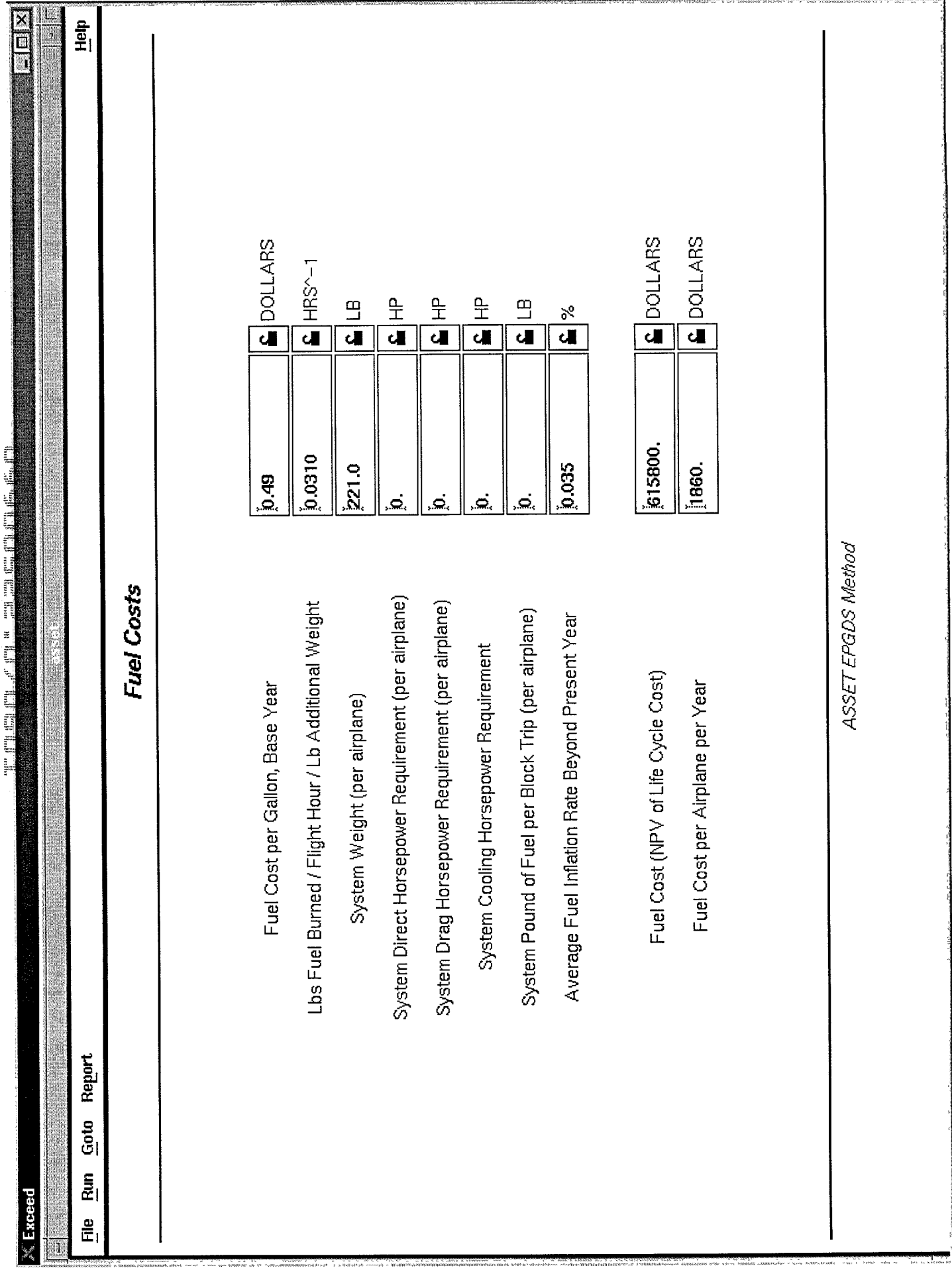
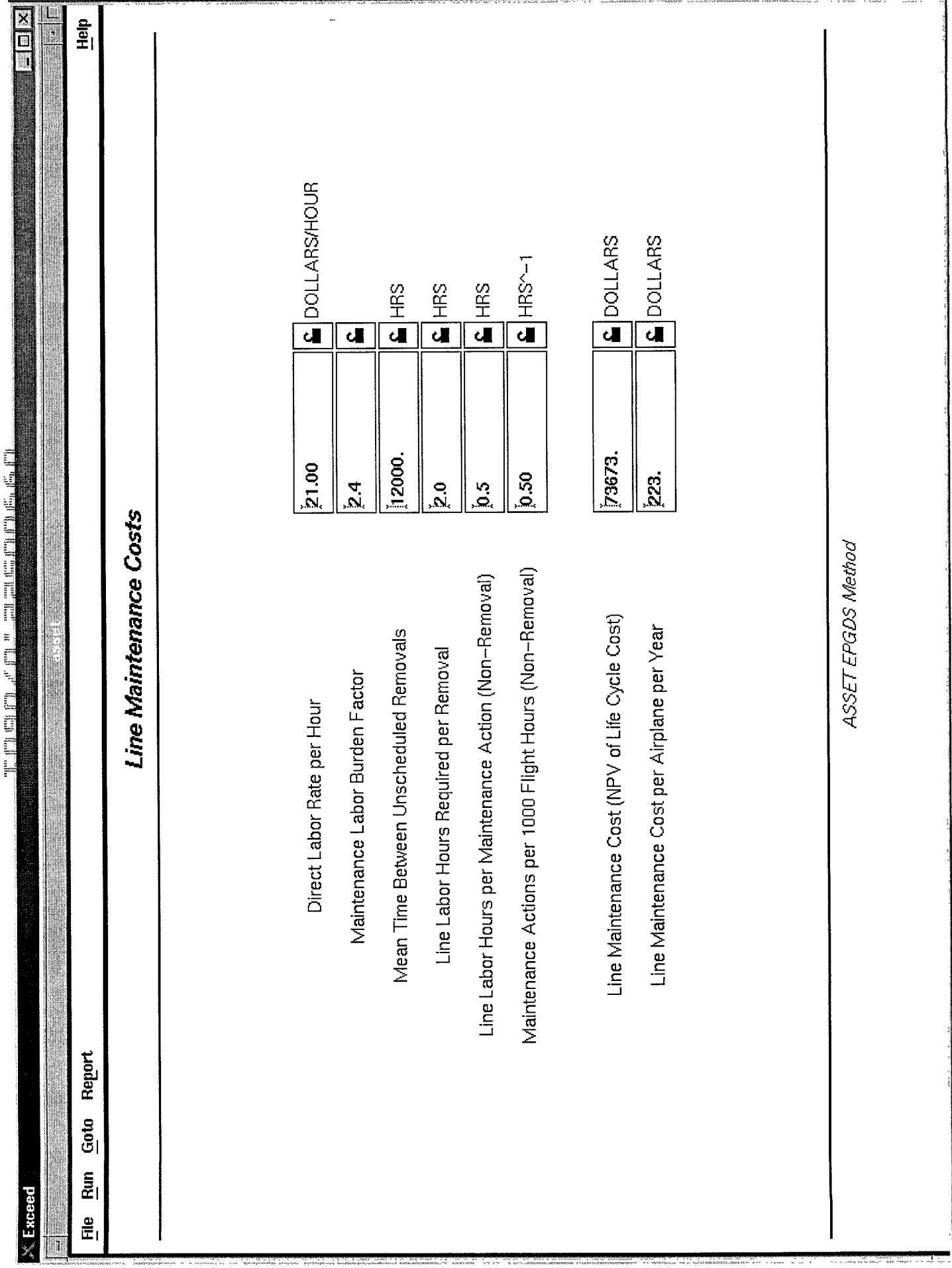


FIGURE 38

Cost / Spare Unit, Base Year	270000.	DOLLARS
Spares Holding Factor	0.12	%
Shop Turnaround Time in Days	34.0	DAYS
Main Base Fill Rate (must be less than 1)	0.95	
Mean Time Between Unscheduled Removals	12000.	HRS
Mean Time Between Overhauls	0.	HRS
Number of Spares Required	5.	
Initial Spares Cost	1350000.	DOLLARS
Spares Holding Cost (NPV of Life Cycle Cost)	787786.	DOLLARS
Spares Cost (NPV of Life Cycle Cost)	3137786.	DOLLARS
Spares Cost per Airplane per Year	9478.	DOLLARS

ASSET EPGDS Method

FIGURE 39











ASSET EPGDS Method

Figure 40

Shop Maintenance Costs





Direct Labor Rate per Hour	\$21.00	DOLLARS/HOUR
Maintenance Labor Burden Factor	2.4	
Mean Time Between Unscheduled Removals	12000.	HRS
Main Generator Mean Time Between Failures	26000.	HRS
Mean Time Between Overhauls	0.	HRS
Shop Labor Man-Hours per Unconfirmed Failure (Test Time)	3.0	HRS
Shop Labor Man-Hours per Failure (Repair and Test)	48.0	HRS
Shop Labor Hours per Overhaul	0.0	HRS
Average Shop Material Cost per Failure, base year	67500.	DOLLARS
Overhaul Materials Cost per Overhaul	0.	DOLLARS
Shop Maintenance Cost (NPV of Life Cycle Cost)	6819057.	DOLLARS
Shop Maintenance Cost per Airplane per Year	20597.	DOLLARS

ASSET EPGDS Method

Direct Labor Rate per Hour		21.00	DOLLARS/HOUR
Maintenance Labor Burden Factor		2.4	
Mean Time Between Unscheduled Removals		12000.	HRS
Schedule Maintenance Inspection Man Hours per 1000 Flight Hours		7.0	
Rectification Man Hours per 1000 Flight Hours		0.0	
Scheduled Maintenance Material Dollars per 1000 Flight Hours		0.00	HRS^-1
Scheduled Maintenance Cost (NPV of Life Cycle Cost)		1237712.	DOLLARS
Scheduled Maintenance Cost per Airplane per Year		5739.	DOLLARS

ASSET EPGDS Method

FIGURE 42

Average Delay Cost per Delay Hour	10300.		DOLLARS/HOUR
Average Cancellation Cost per Cancellation	51000.		
Average Air Turnback Cost per Turnback	36700.		DOLLARS
Average Diversion Cost per Diversion	43000.		DOLLARS

Number of Delays per 100 Departures	0.0030	
Average Delay Time (Hours)	1.70	HRS
Number of Cancellations per 100 Departures	0.0001	
Number of Air Turnbacks per 100 Departures	0.0002	
Number of Diversions per 100 Departures	0.0000	

Schedule Interruptions Cost (NPV of Life Cycle Cost)	\$493,999.	\$	DOLLARS
Schedule Interruptions Cost per Airplane per Year	\$1,492.	\$	DOLLARS

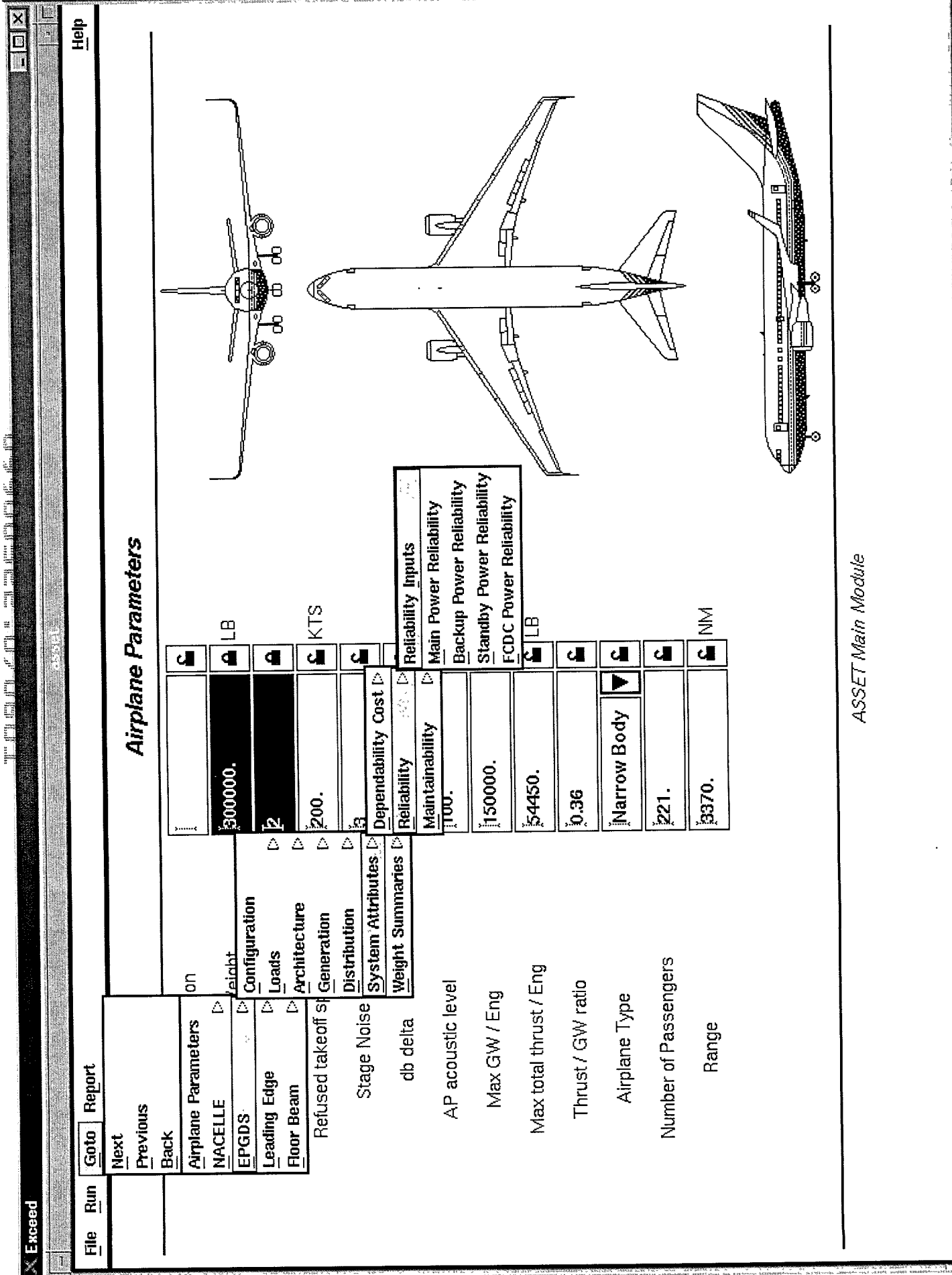
ASSET EPGDS Method

FIGURE 43

ASSET EPGDS Method

831




















FIGURE 44



ASSET Main Module

Figure 45

Reliability Inputs

Average Flight Hours per Flight		3.40			
LRU MTBF's					
Main Generator MTBF	26000.				
APU Generator MTBF	20000.				
VSCF Backup Generator MTBF	20000.				
Generator Control Unit (GCU) MTBF	250000.				
Backup Converter MTBF	15000.				
Generator Control Breaker (GCB) MTBF	300000.				
IFSD Rates (per 1000 flight hours)					
Engine In-flight Shutdowns per 1000 hours			0.010		HRS^-1 
APU In-flight Shutdowns per 1000 hours			0.200		HRS^-1 
Failure to Start Probabilities					
APU No-Start Probability			0.010		
Probability of RAT Unavailable when Required			3.2e-03		
Other Failure Rates (per flight hour)					
Rate of Other Channel Faults	10000.		1.2e-05		HRS^-1 
Main Generator Shaft Shear Rate	40000.		3.0e-06		HRS^-1 
Backup Generator Shaft Shear Rate	420000.		1.2e-05		HRS^-1 
LRU MTBF's					
Ram Air Turbine MTBF	10000.				
RAT Gen. Control Unit MTBF	40000.				
Permanent Magnet Generator (PMG) MTBF	420000.				
Main and APU Battery MTBF	25000.				
Main and APU Battery Charger MTBF	30000.				

ASSET EPGDS Method

Figure 46

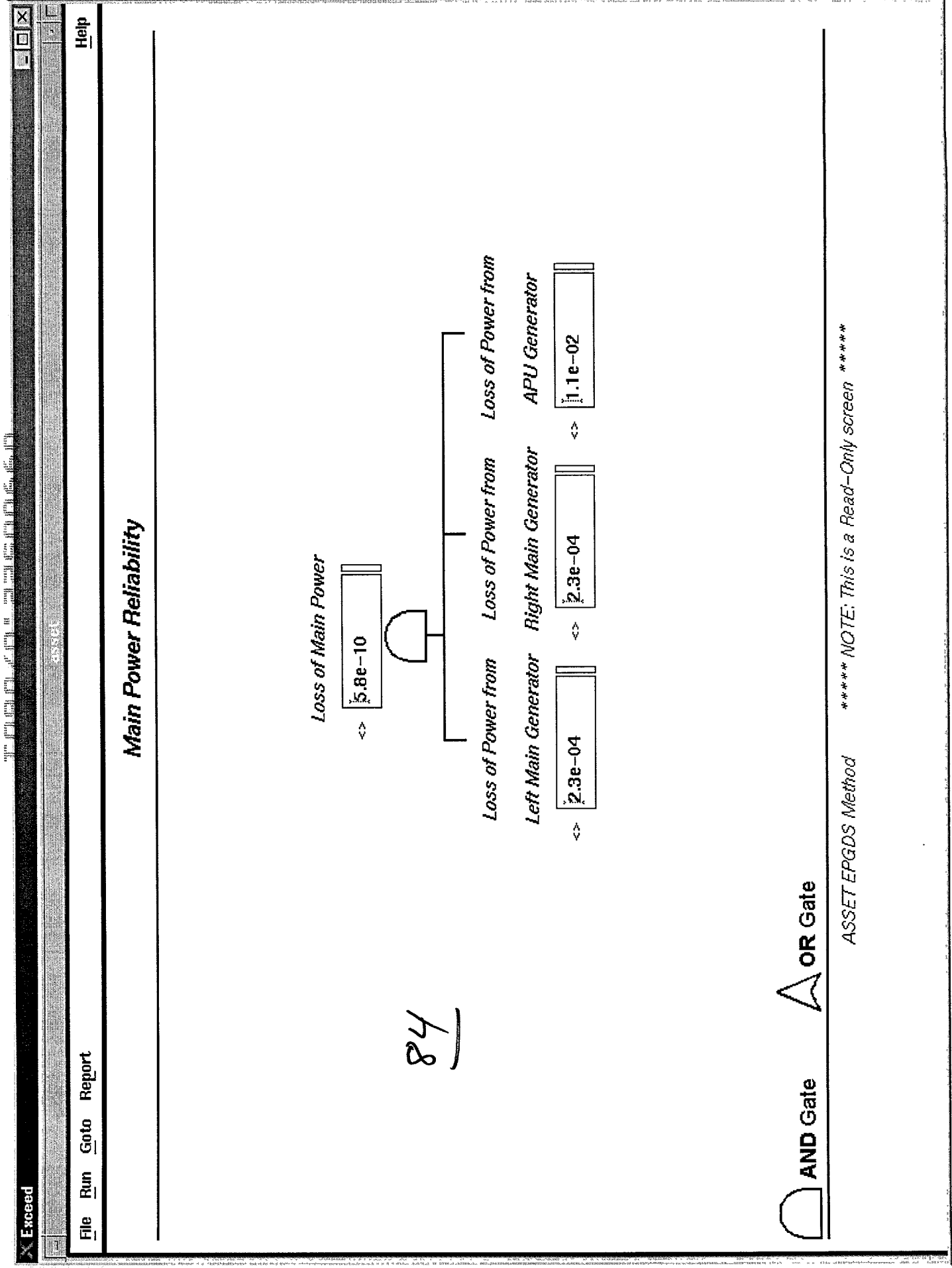


Figure 47

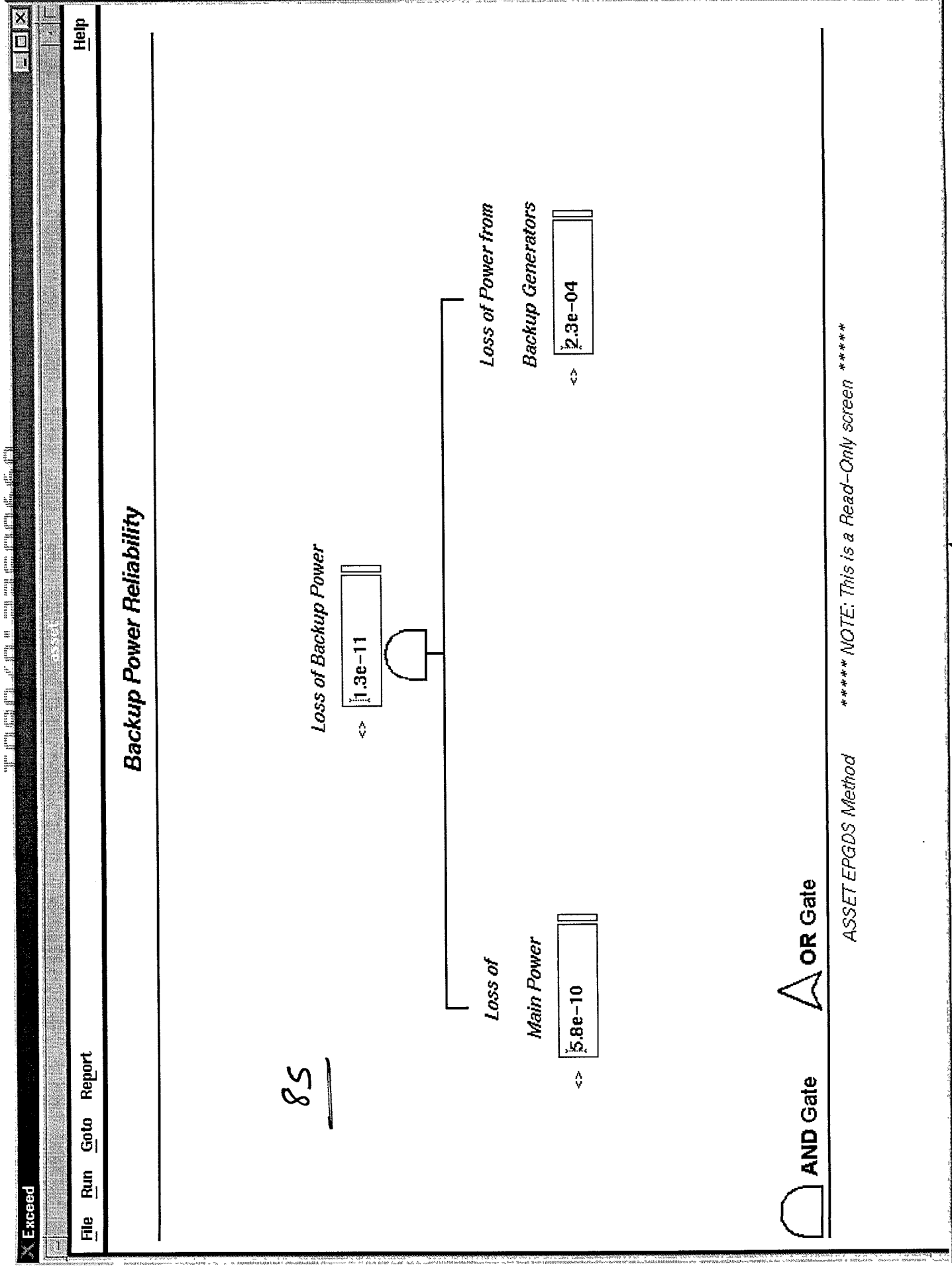
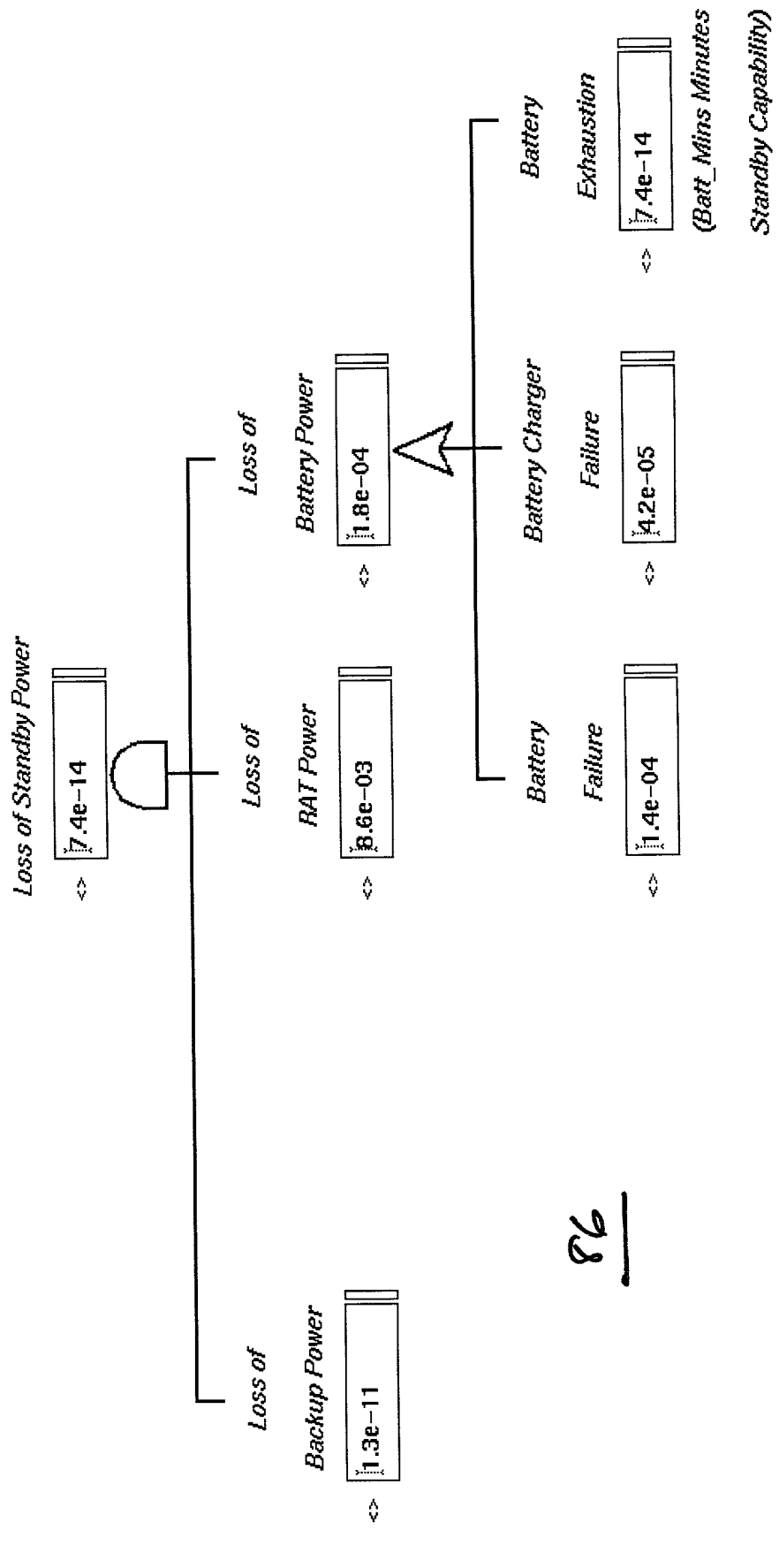


FIGURE 48

Standby Power Reliability



86

AND Gate OR Gate

***** NOTE: This is a Read-Only screen *****

FIGURE 49

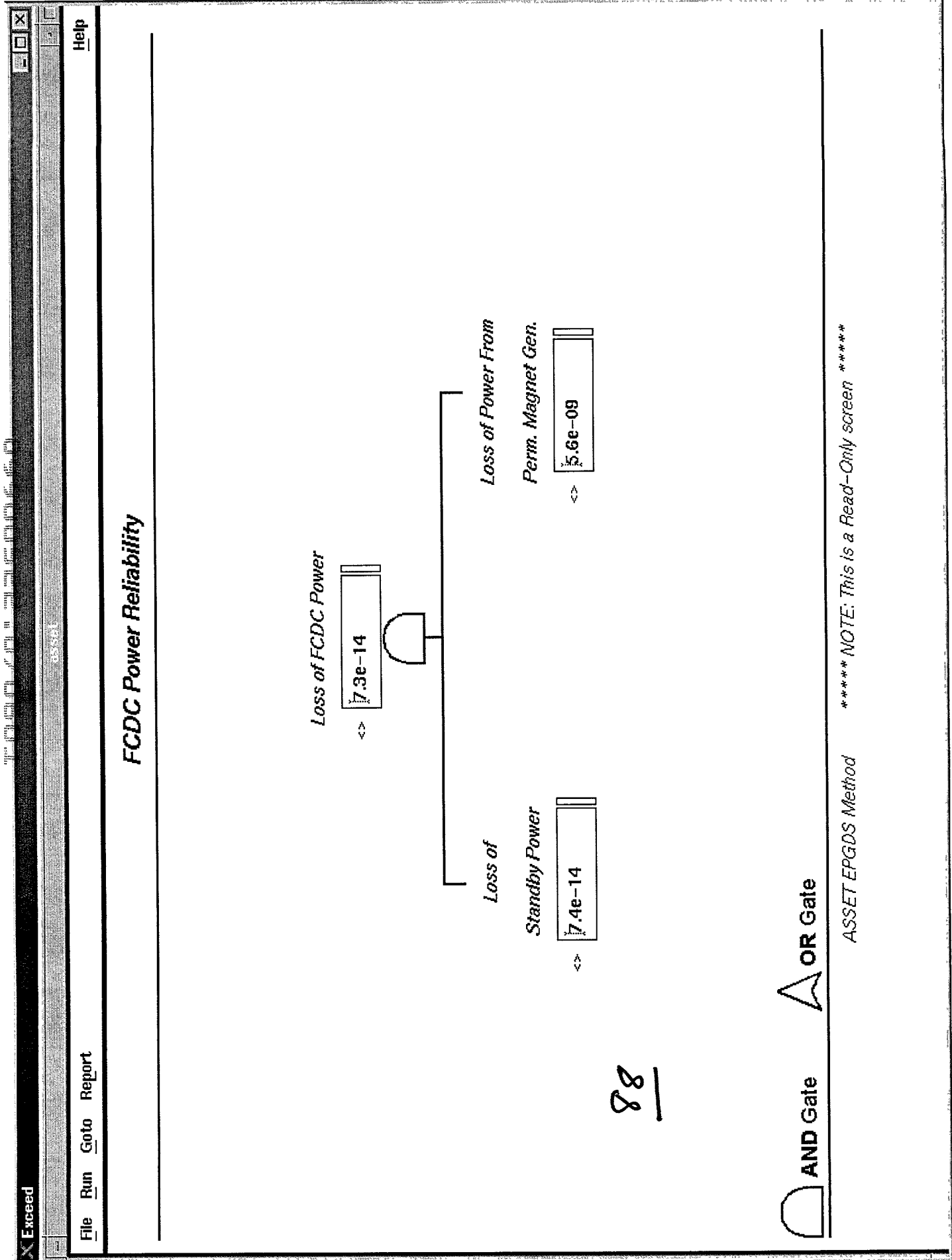


Figure 50

Maintenance Times

Frequency (Flight Hours)

Mean Time Between Unscheduled Removals

Maintenance Interval

Maintenance Corrective Times(Flight Hours)

Main Generator Unscheduled Removal Access Time

Main Generator Unscheduled Removal Fault Isolation Time

Repair / Remove & Replace Time

Main Generator Unscheduled Removal Servicing Time

Main Generator Unscheduled Removal Alignment & Adjustment Time

Main Generator Unscheduled Removal Checkout / Verification Time

Main Generator Unscheduled Removal Closing Up Time

Main Generator Unscheduled Removal Mean Corrective Time






















ASSET EPGDS Method

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Figure 52

Unscheduled Servicing Alignment & Adjustment Removals

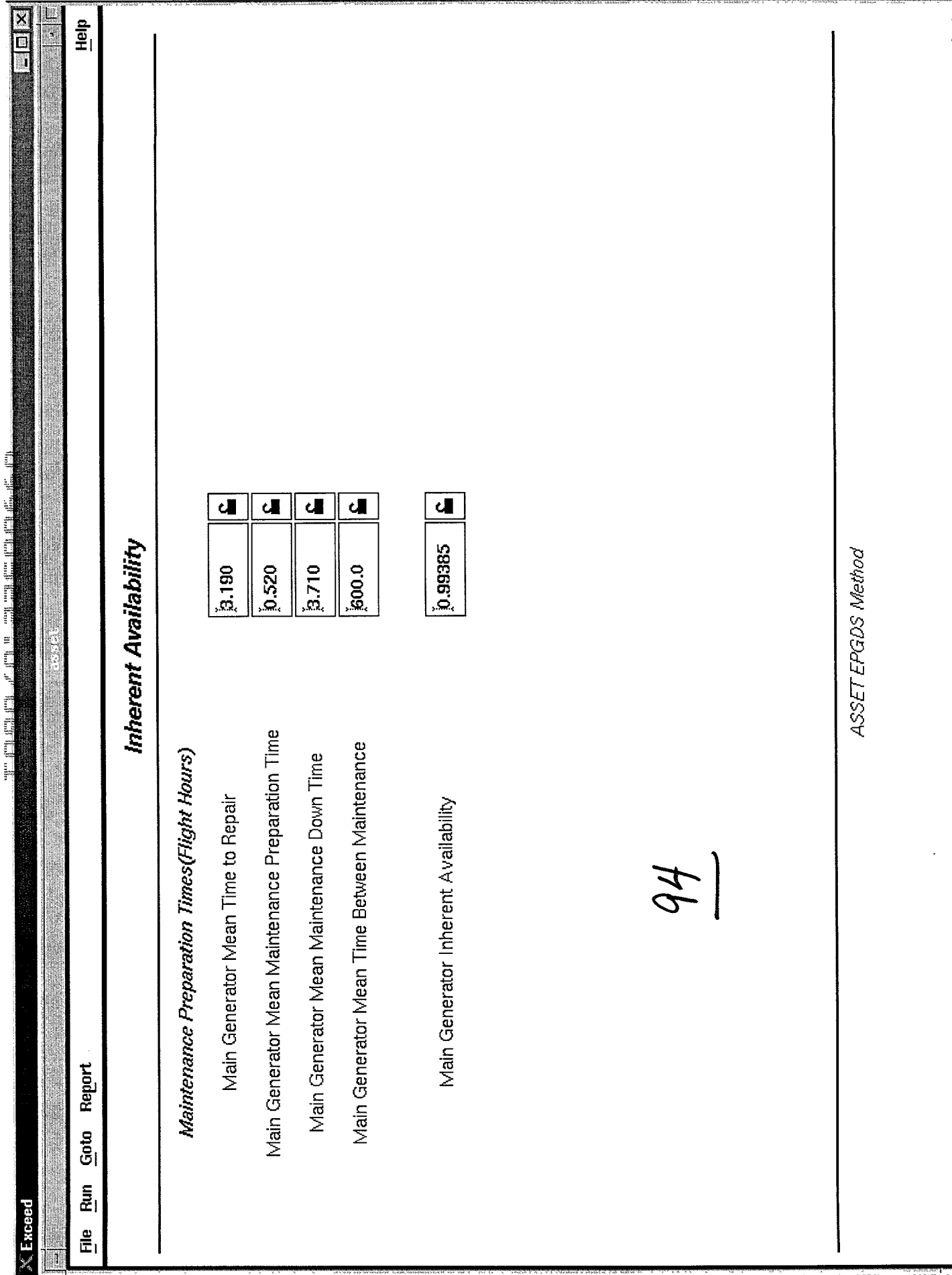
Main Generator Unscheduled Removal Maintenance Coordination Time	
Main Generator Unscheduled Removal Dispatch Delay Time	
Main Generator Unscheduled Removal Airplane Ferrying Time	
Main Generator Unscheduled Removal Supply Delay Time	
Main Generator Unscheduled Removal Spares & Equipment Issuing Time	
Main Generator Unscheduled Removal Transport Delay Time	
Main Generator Unscheduled Removal Maintenance Delay Time	

						
0.10	0.20	1.00	0.	0.50	0.60	0.70
						
0.10	0.10	0.10	0.30	0.10	0.10	0.10
						
0.10	0.10	0.50	0.10	1.	0.10	0.10

ASSET EPGDS Method

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Figure 53



ASSET EPGDS Method

Figure 54

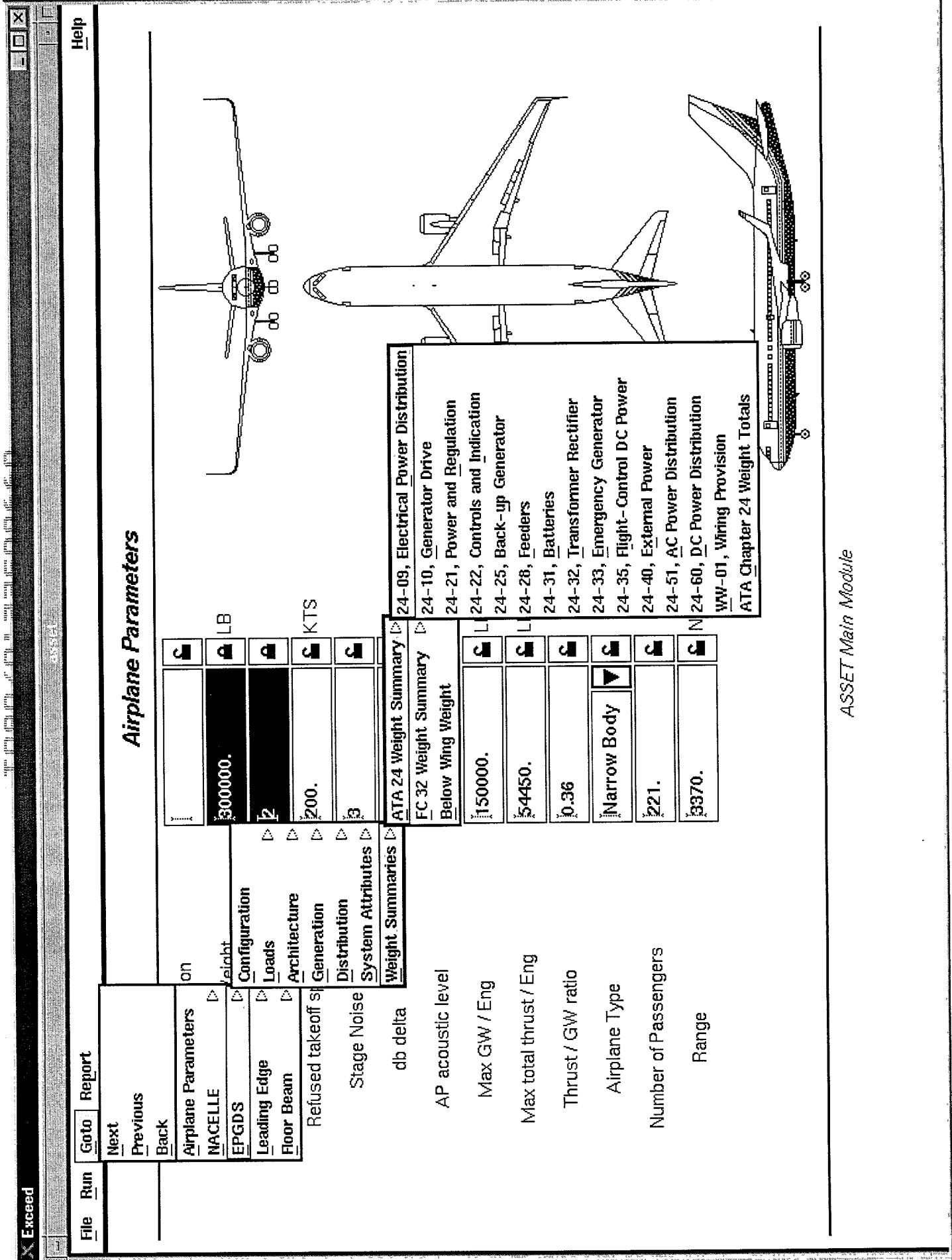


Figure 55

24-09, Electrical Power Distribution

[illegible]

ASSET EPGDS Method

Figure 56

24-10, Generator Drive

[illegible]

ASSET EPGDS Method

Figure 57

ASSET EPGDS Method

F1 CURE 58

24-22, Controls and Indication

[illegible]

ASSET EPGDS Method

Figure 59

24-25, Back-up Generator

[illegible]

ASSET EPGDS Method

FIGURE 60

24-28, Feeders

[illegible]

ASSET EPGDS Method

FIGURE 6)

24-31, Batteries

[illegible]

ASSET EPGDS Method

Figure 62

24-32, Transformer Rectifier

[illegible]

ASSET EPGDS Method

FIGURE 63

24-33, Emergency Generator

[illegible]

ASSET EPGDS Method

Figure 64

24-35, Flight-Control DC Power

[illegible]

ASSET EPGDS Method

FILED 65

Component

Component Designation

Subtotal

[illegible]

ASSET EPGDS Method

FIGURE 66

24-51, AC Power Distribution

[illegible]

ASSET EPGDS Method

24-60, DC Power Distribution

[illegible]

ASSET EPGDS Method

FIGURE 68

WW-01, Wiring Provision

[illegible]

ASSET EPGDS Method

FIGURE 69

ATA Chapter 24 Weight Totals

ATA 24-09, Electrical Power Distribution	655.1	LB
ATA 24-10, Generator Drive	113.6	LB
ATA 24-21, Power and Regulation	285.2	LB
ATA 24-22, Controls and Indication	15.0	LB
ATA 24-25, Back-up Generators	172.4	LB
ATA 24-28, Feeders	274.4	LB
ATA 24-31, Batteries	238.0	LB
ATA 24-32, Transformer Rectifier	64.4	LB
ATA 24-33, Emergency Generator	100.7	LB
ATA 24-35, Flight-Control DC Power	211.8	LB
ATA 24-40, External Power	59.5	LB
ATA 24-51, AC Power Distribution	106.0	LB
ATA 24-60, DC Power Distribution	49.4	LB
WW-01, Wiring Provision	152.6	LB
Electrical Power Generation & Distribution System	2498.0	LB

ASSET EPGDS Method

FIGURE 70

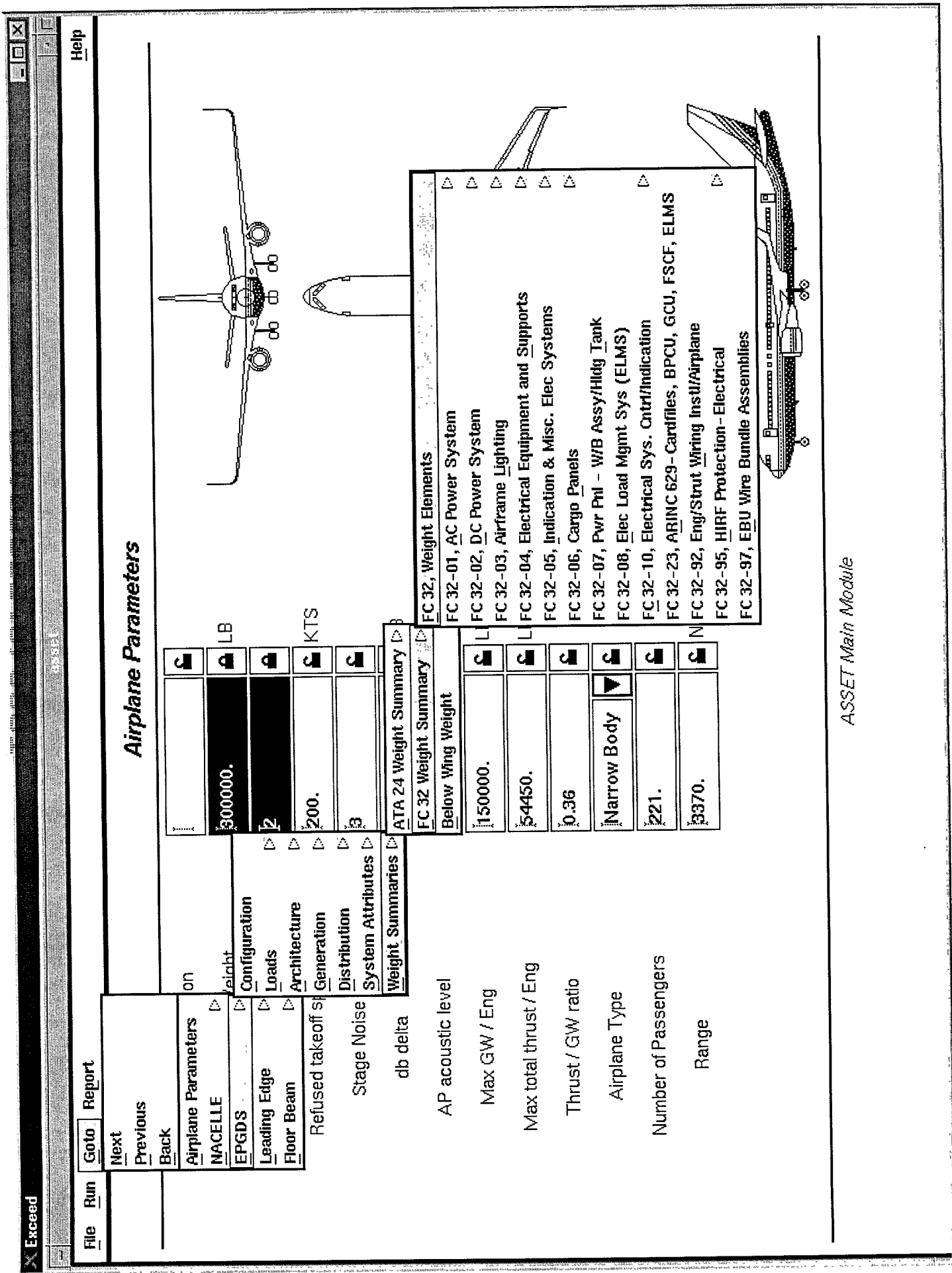


FIGURE 71

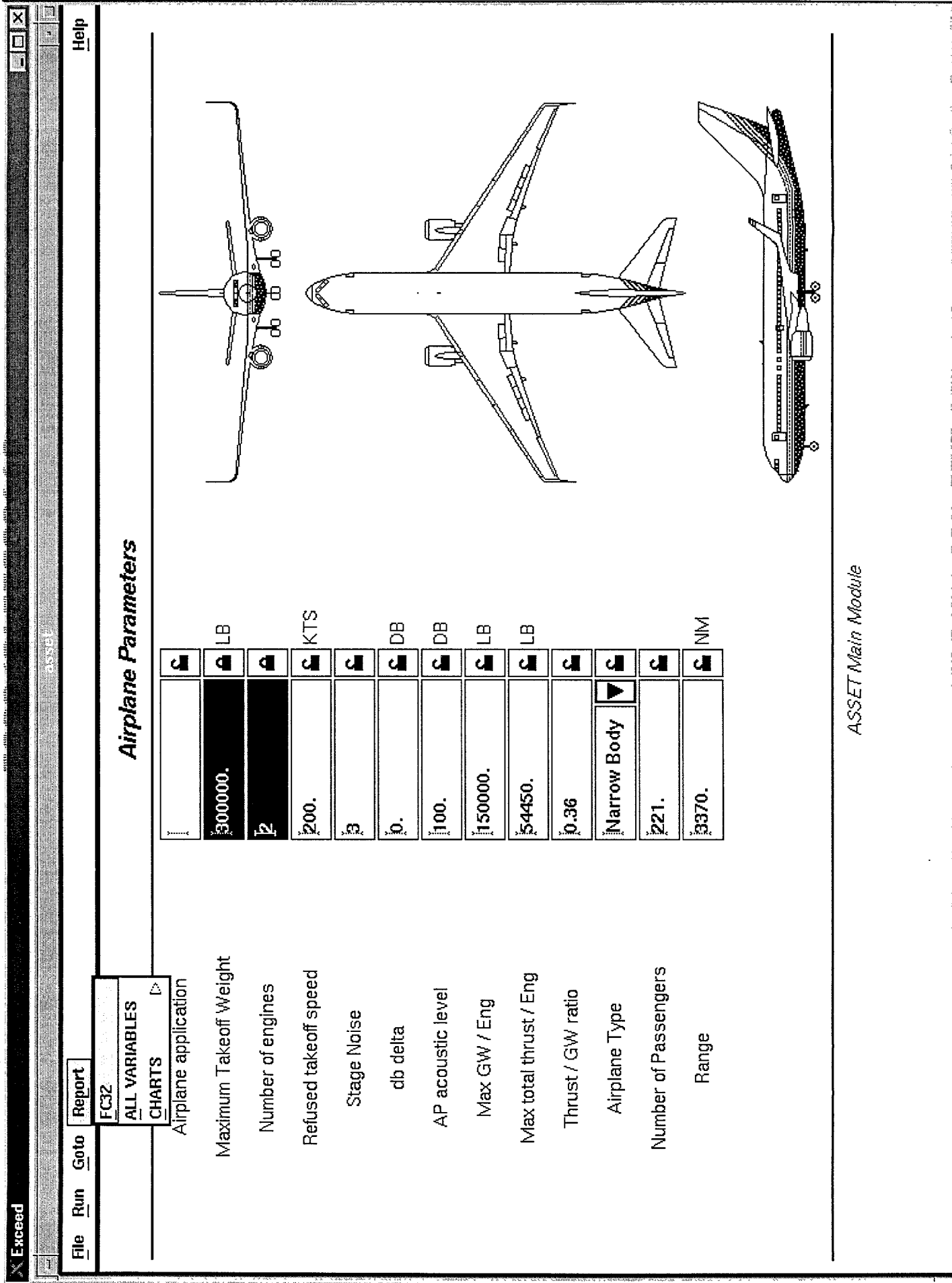


Figure 72

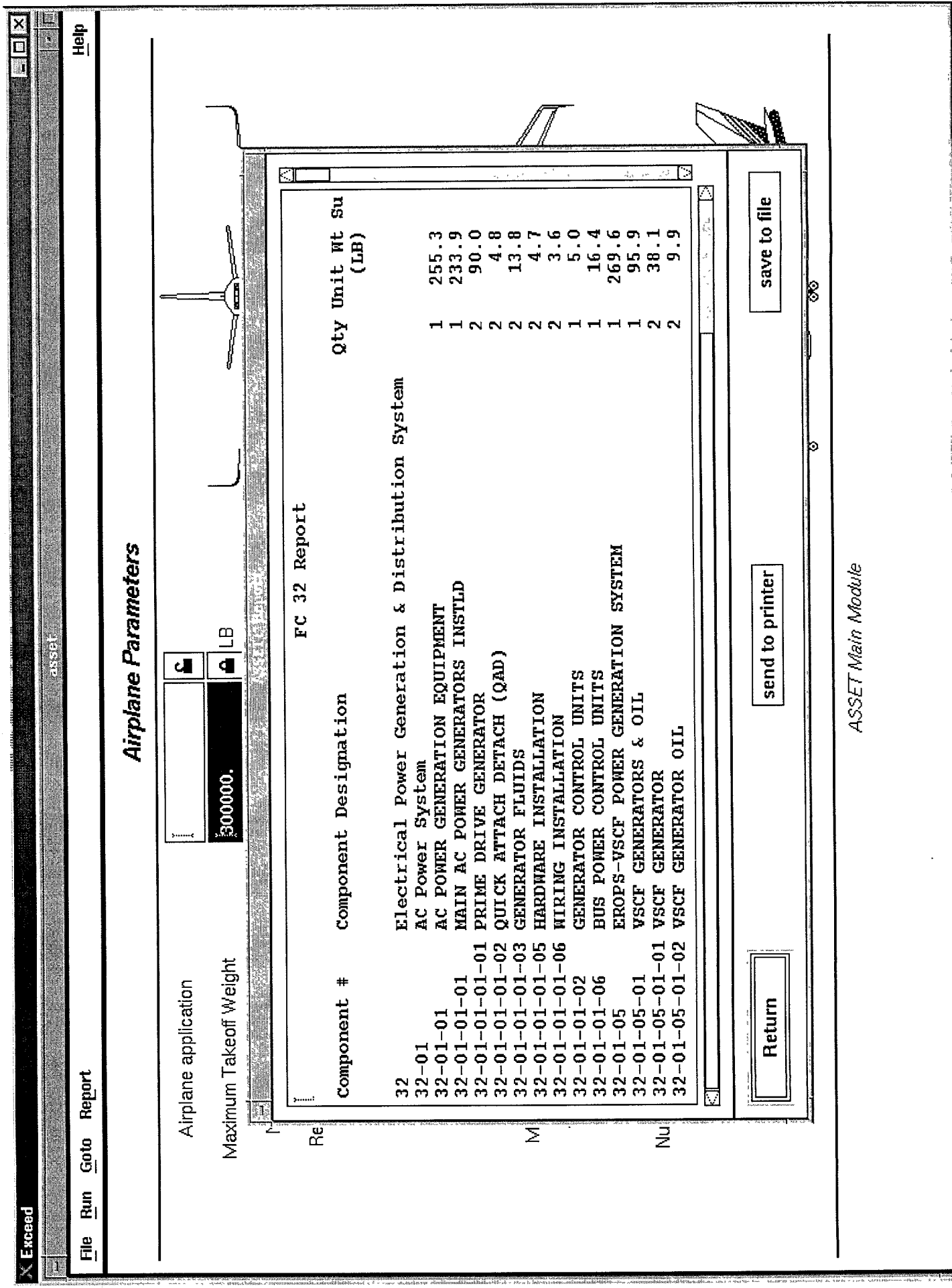


Figure 93

Airplane Parameters

Airplane application

Maximum Takeoff Weight

27

3.333.30000.

AC_Stdbby_Load	AC Standby Load	[0][0][0]
AGEN_MTBF	APU Generator MTBF	[0][0][0]
APA	Airplane application	[0][0][0]
APUG_Cap	APU Generator Capacity	[0][0][0]
APUG_Cap_As_Built	APU Generator Capacity	[0][0][0]
APUG_Wt	APU Generator Weight	[0][0][0]
APU_Batt_Cap	Nominal Capacity	[0][0][0]
APU_Batt_Chgr_Cap	Output Capacity	[0][0][0]
APU_Batt_Chgr_Wt	Battery Charger Weight	[0][0][0]
APU_Batt_Chgr_Wt_As_Built	Battery Charger Weight	[0]
APU_Batt_Wt	Battery Weight	[0][0][0]
APU_Batt_Wt_As_Built	Battery Weight	[0][0][0]
APU_Ch_Prob	Probability of Loss of APU Generating Channel	[0][0][0]
APU_Feeder	APU Feeder Configuration	[0][0][0]
APU_Feeder	APU Feeder Configuration	[1][0][0]
APU_Feeder	APU Feeder Configuration	[2][0][0]
APU_Feeder	APU Feeder Configuration	[3][0][0]
APU_Feeder	APU Feeder Configuration	[4][0][0]
APU_GCU_Size	APU Generator GCU Size	[0][0][0]
APU_GCU_Wt	Unit Weight	[0][0][0]

Return

send to printer

save to file

ASSET Main Module

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FIGURE 74

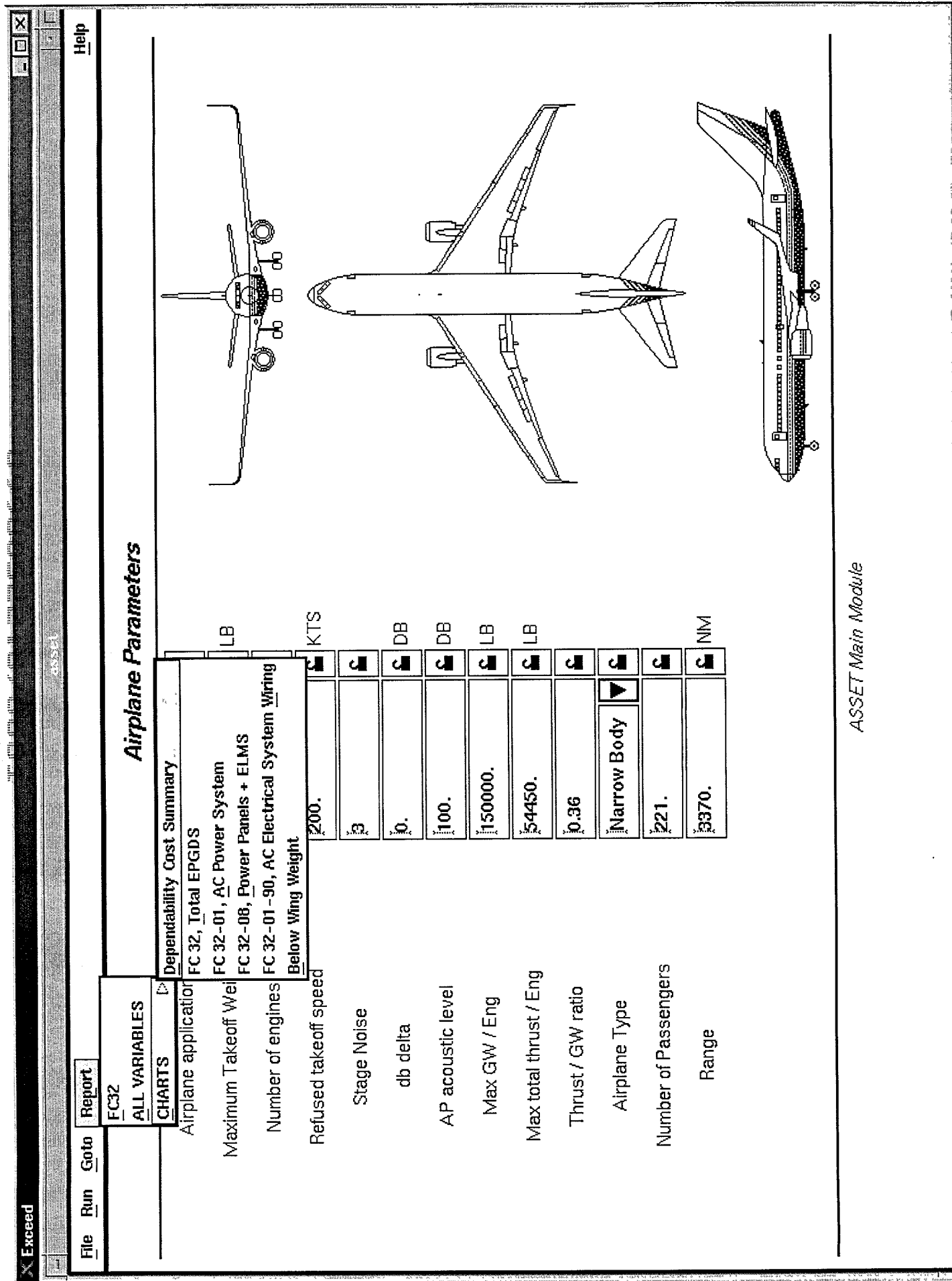
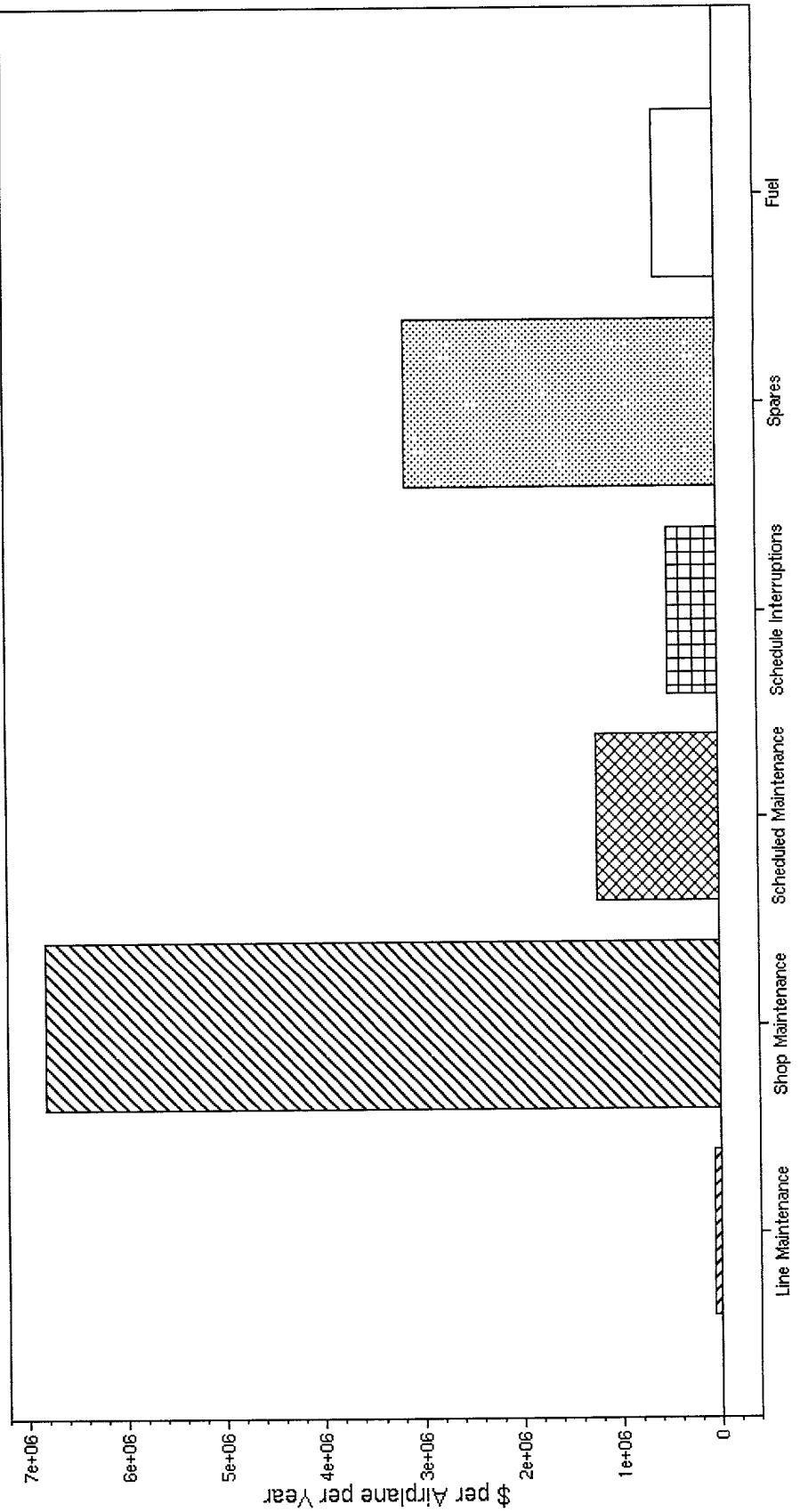


FIGURE 7.5

Dependability Cost Summary

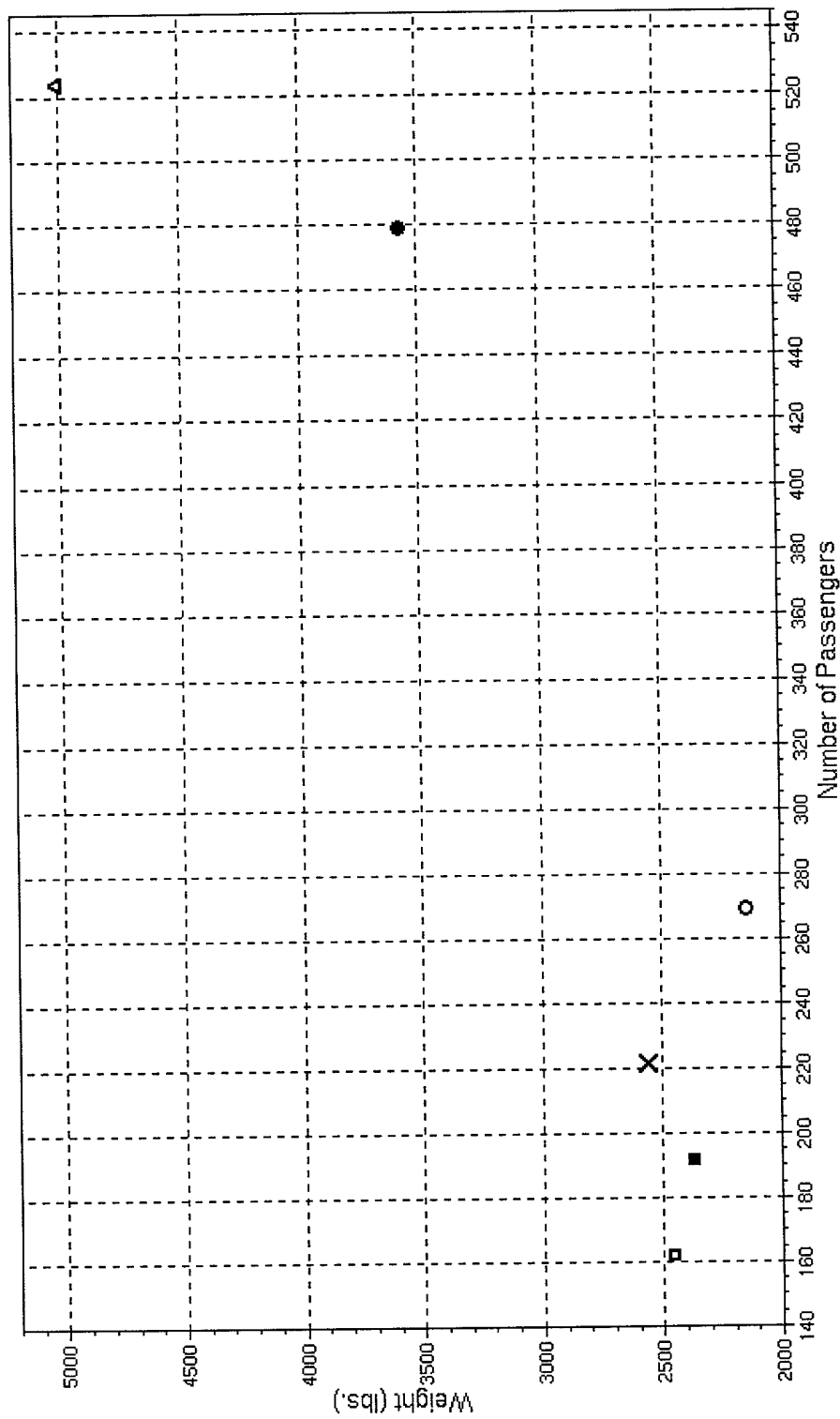


Return

100

FIGURE 76

FC32, Total EPGDS Weight



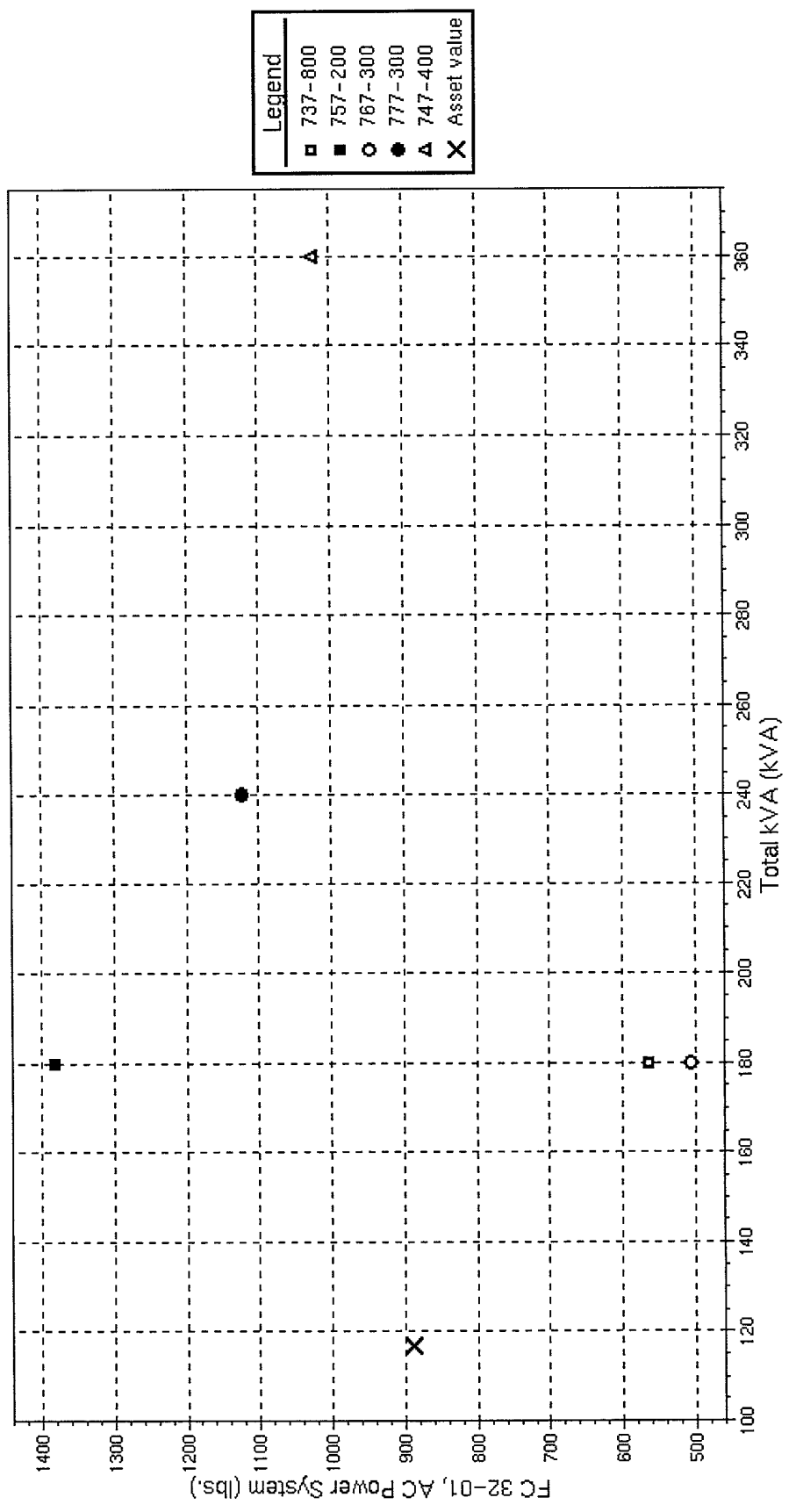
102

Return

Figure 77

ASSET Chart

FC 32-01, AC Power System Weight



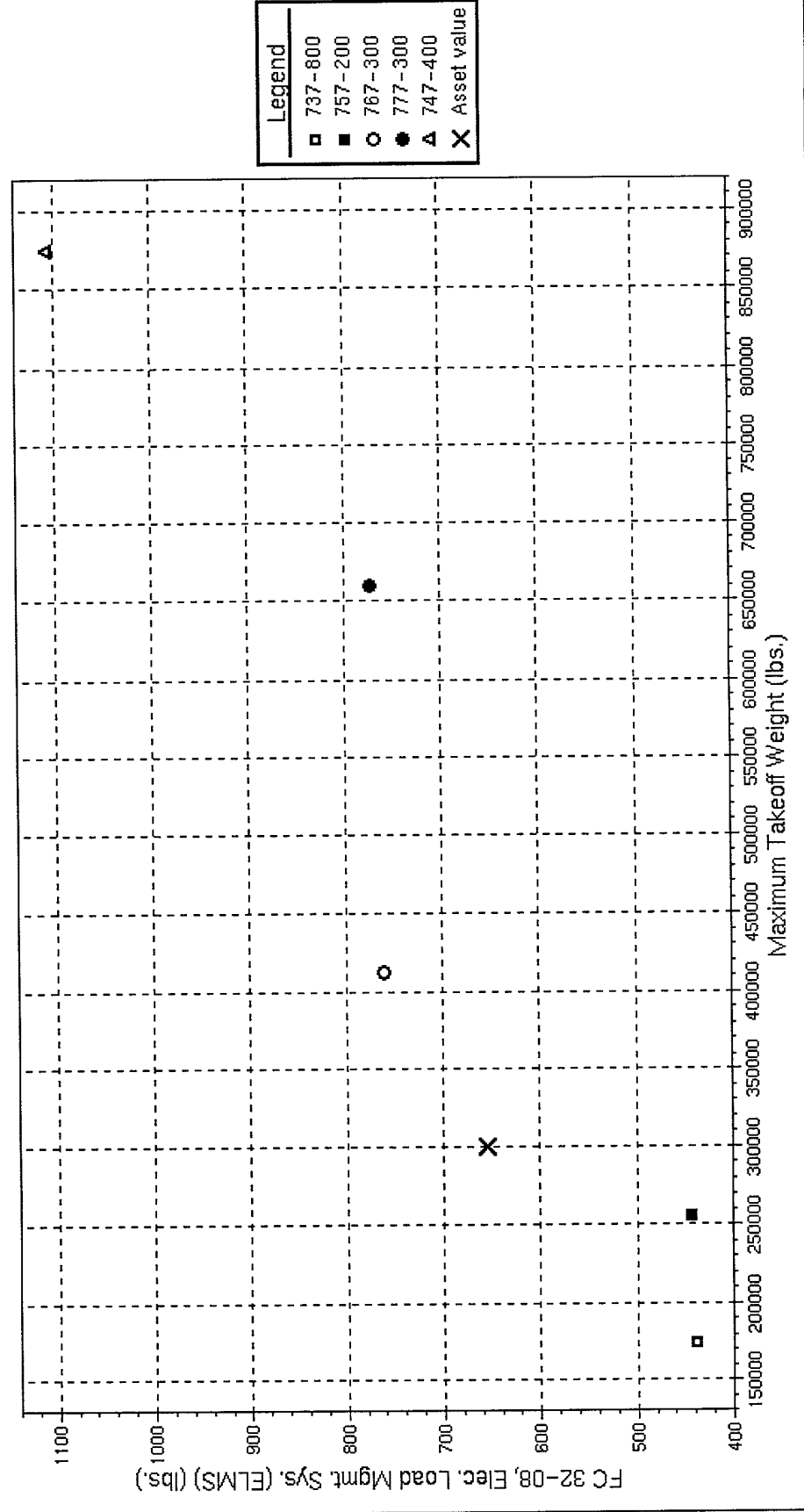
104

Return

Figure 78

ASSET: Blart

FC 32-08, Power Panels + ELMS



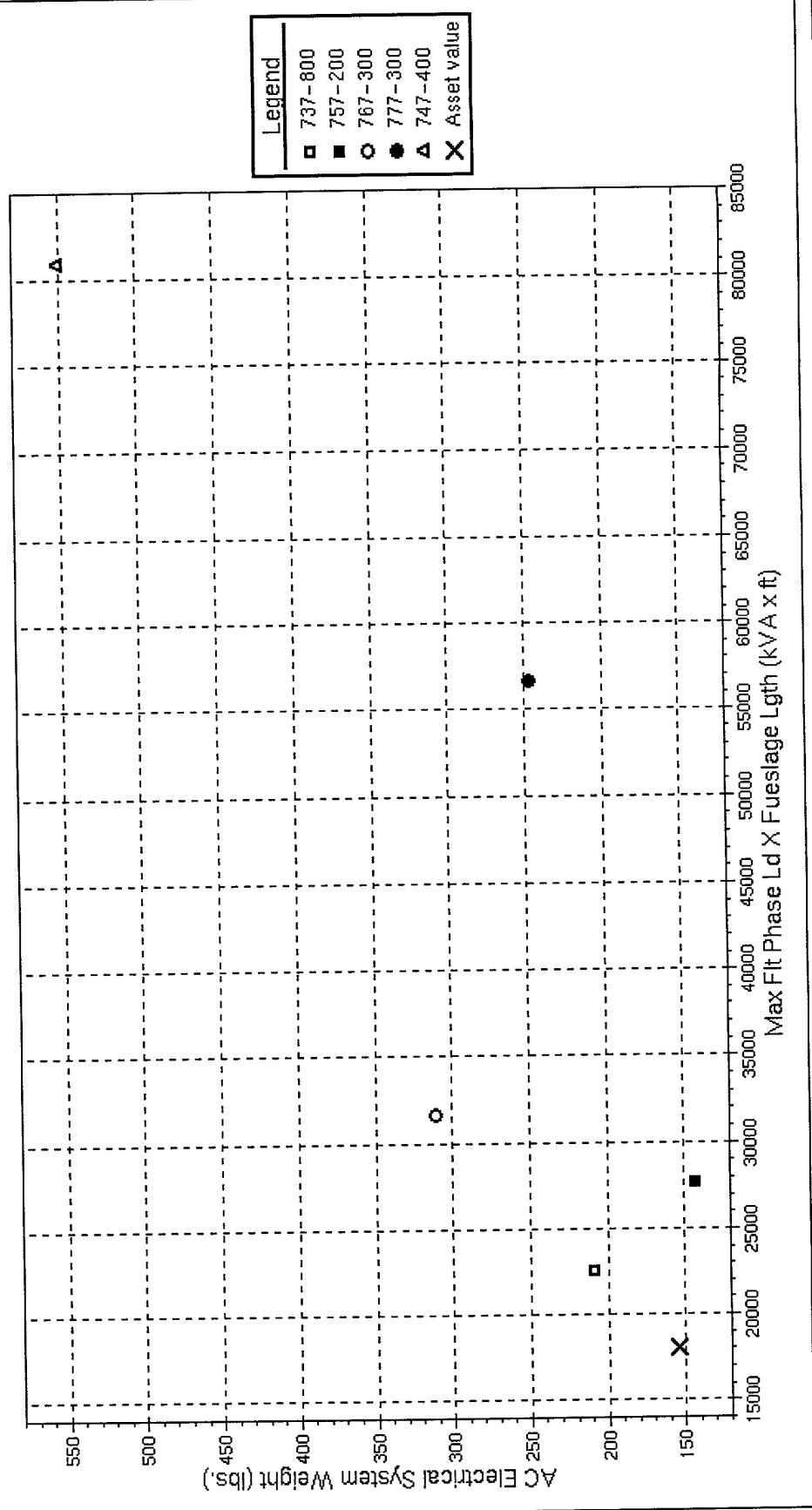
Return

106

Figure 77

ASST: Chart

FC 32-01-90, AC Electrical System Wiring

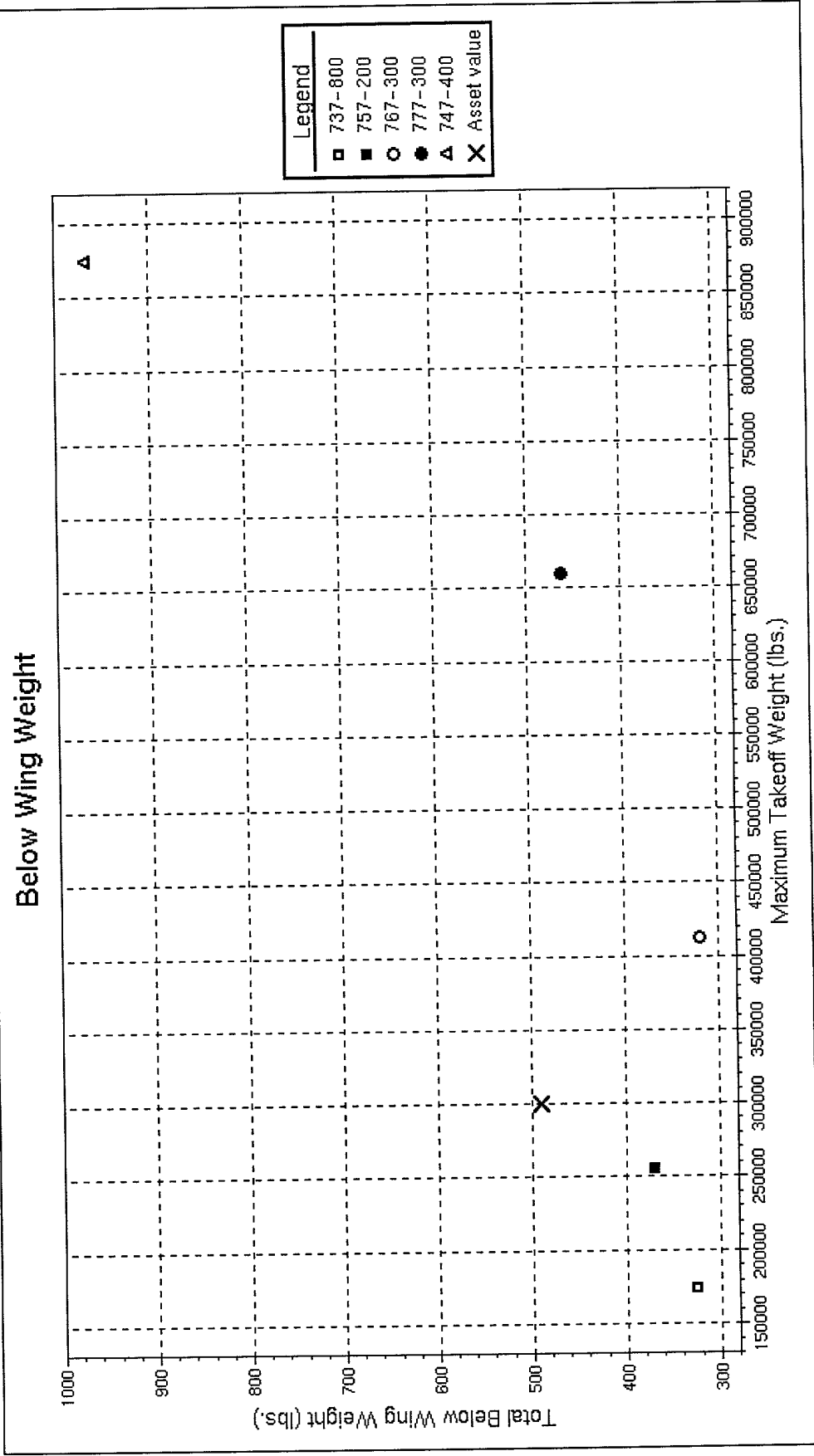


Return

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FIGURE 80

Asset: Chart



Return

110

Figure 81